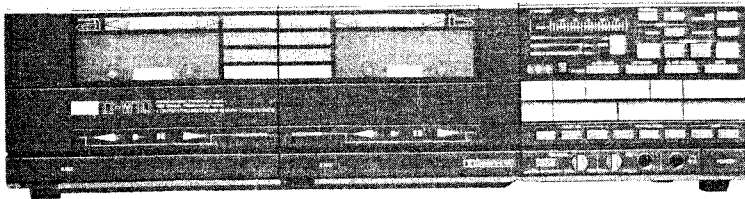


SERVICE MANUAL

COMPU-SYNCHRO
DOUBLE REVERSE CASSETTE DECK

SANSUI D-W10

(Silver & Black Model)



CAUTION

1. Parts identified by the $\triangle$ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

Track format	4-track/2-channel system
Tape speed	4.8 cm/sec, 9.5 cm/sec.
Heads	
Rec/play head	HIGH-Bs hard permalloy x 2
Erase head	Double-gap HIGH-Bs ferrite x 2
Motor	
	Electronically controlled DC motor x 2
	Reels: DC Motor x 2
Wow/flutter	0.05% max (WRMS)
Fast forwarding (rewinding) time	
	Approx. 85 sec. (for C-60 tape)
Frequency response (—20 VU recording/playback)	
Normal tape (LH)	20 to 15,000 Hz (30 to 14,000 Hz ± 3 dB)
Chrome tape	20 to 17,000 Hz (30 to 16,000 Hz ± 3 dB)
Metal tape	20 to 18,000 Hz (30 to 17,000 Hz ± 3 dB)
Signal to noise ratio (Record/Playback)	
Metal Tape (without Dolby Noise Reduction)	 better than 57 dB
(With Dolby Noise Reduction Effect)	
DOLBY "B" NR	better than 66 dB (above 5 kHz)
DOLBY "C" NR	better than 73 dB (above 1 kHz)
Erasure factor (Metal Tape)	
	 more than 70 dB at 1 kHz
Recording bias frequency	
	85 kHz
Input sensitivity/impedance	
LINE IN (REC)	150 mV/47 kohms (AUTO) 70 mV/47 kohms (MANUAL)
MIC	0.5 mV/10 kohms
Power requirements	
	120/220/240 V 50/60 Hz
	For U.S.A. and Canada
	120V (60 Hz)
Power consumption	
	35W
Dimensions	
	430 mm (16-15/16") W 111 mm (4-38") H 304 mm (12") D
Weight	
	6.2 kg (13.7 bs) net 7.6 kg (16.8 bs) packed

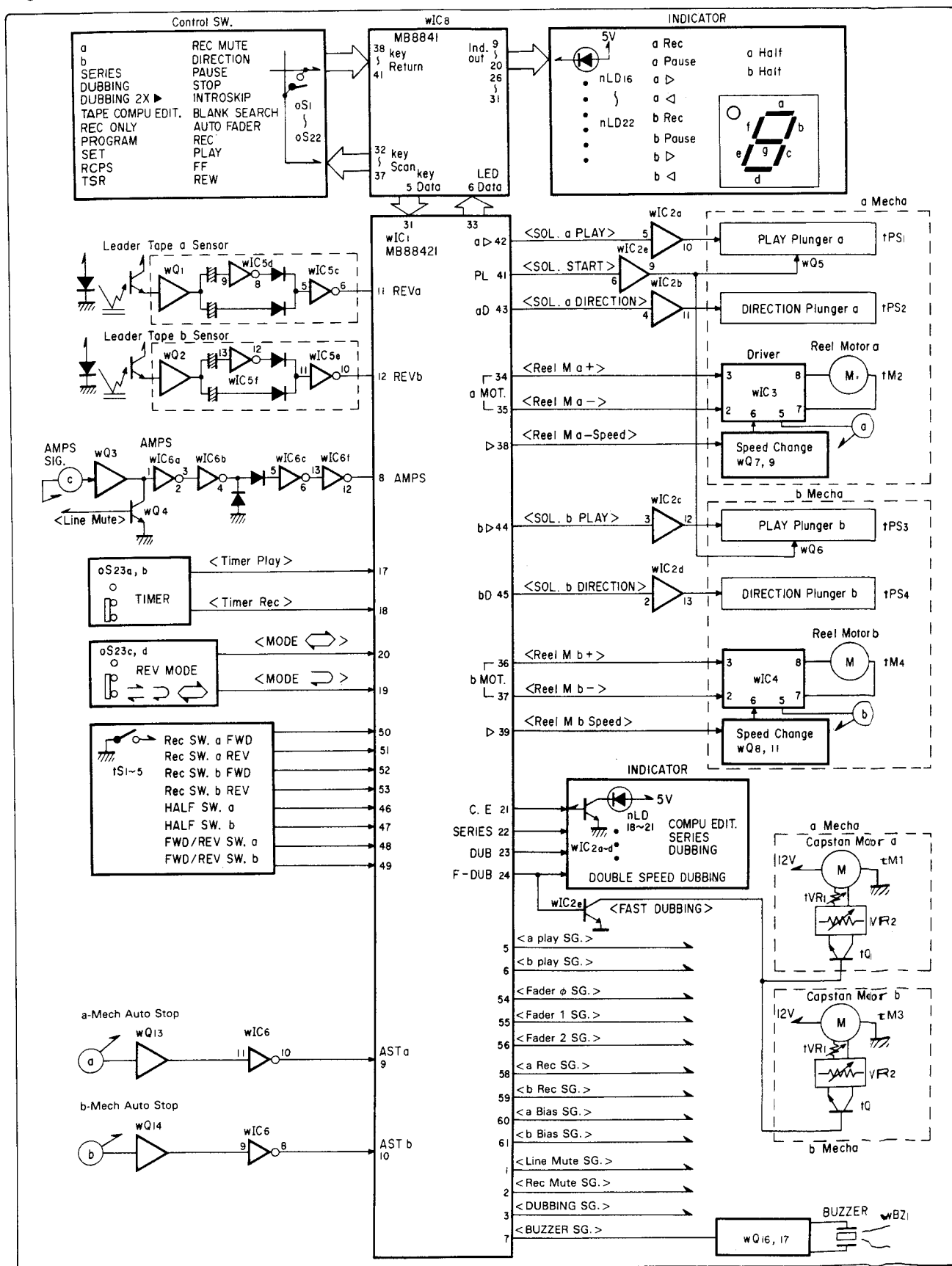
- Design and specifications subject to changes without notice for improvements.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Sansui

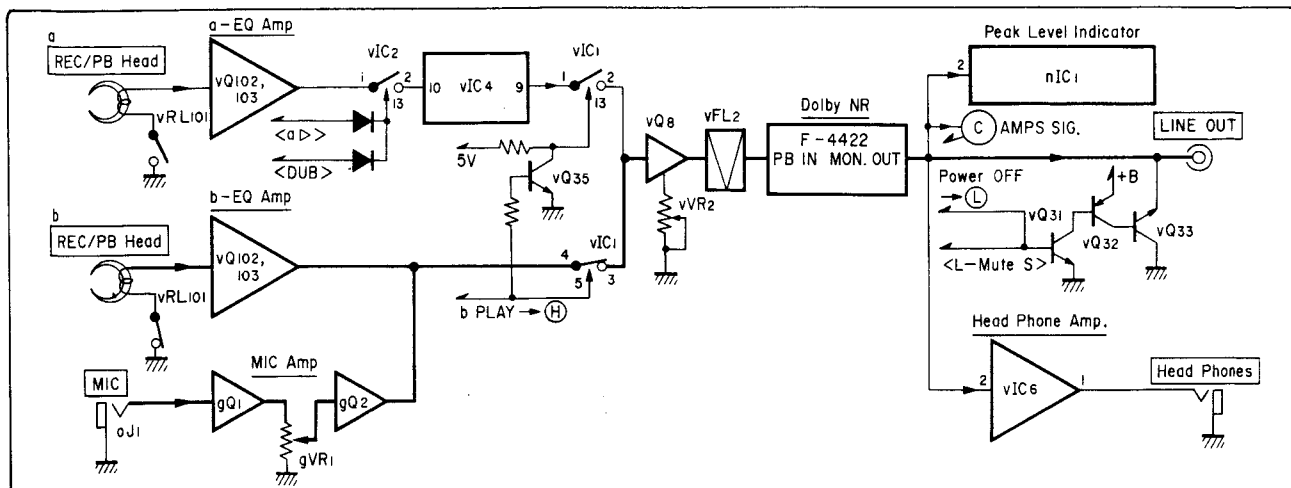
SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM

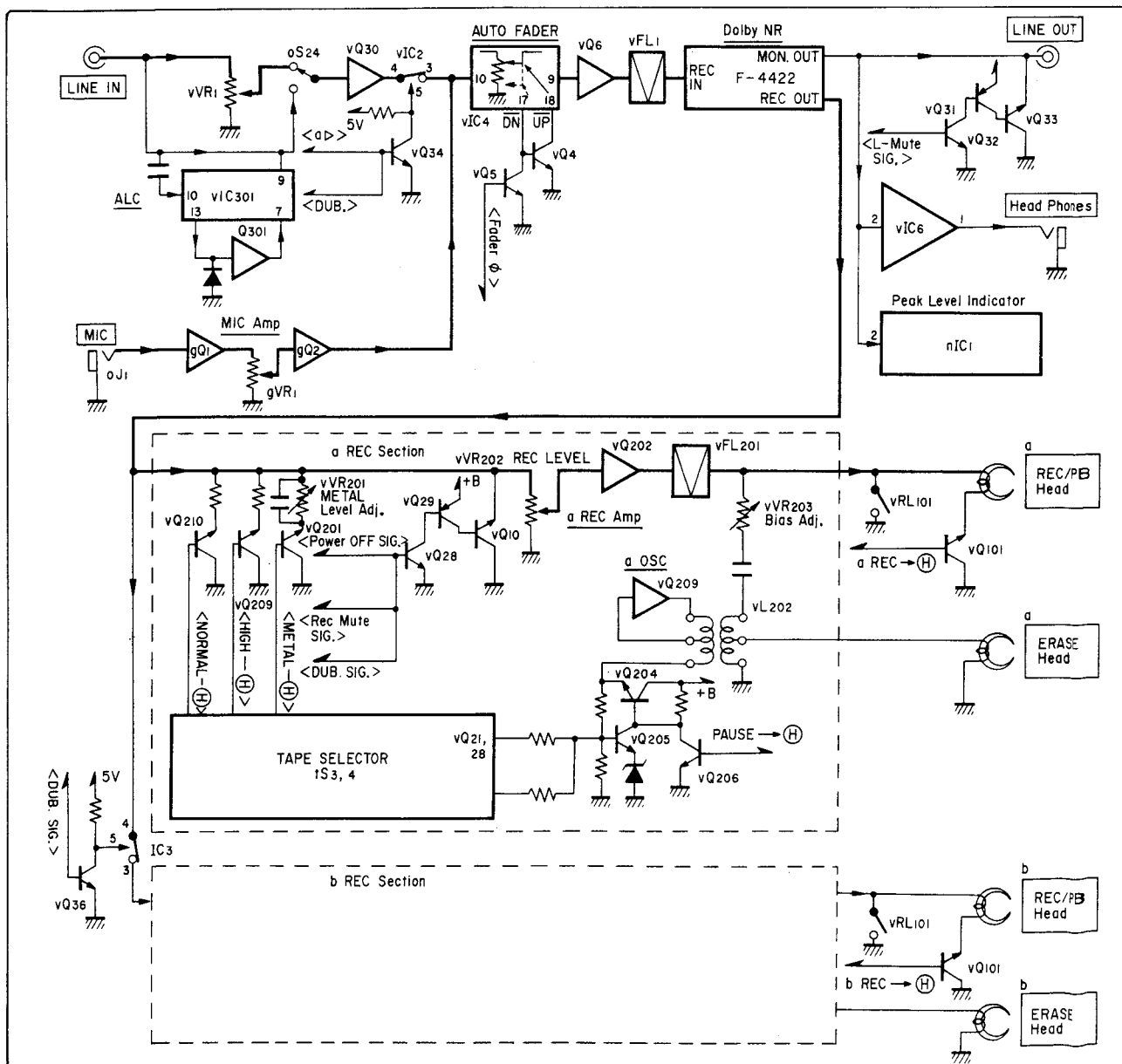
1-1. Logic Control Section



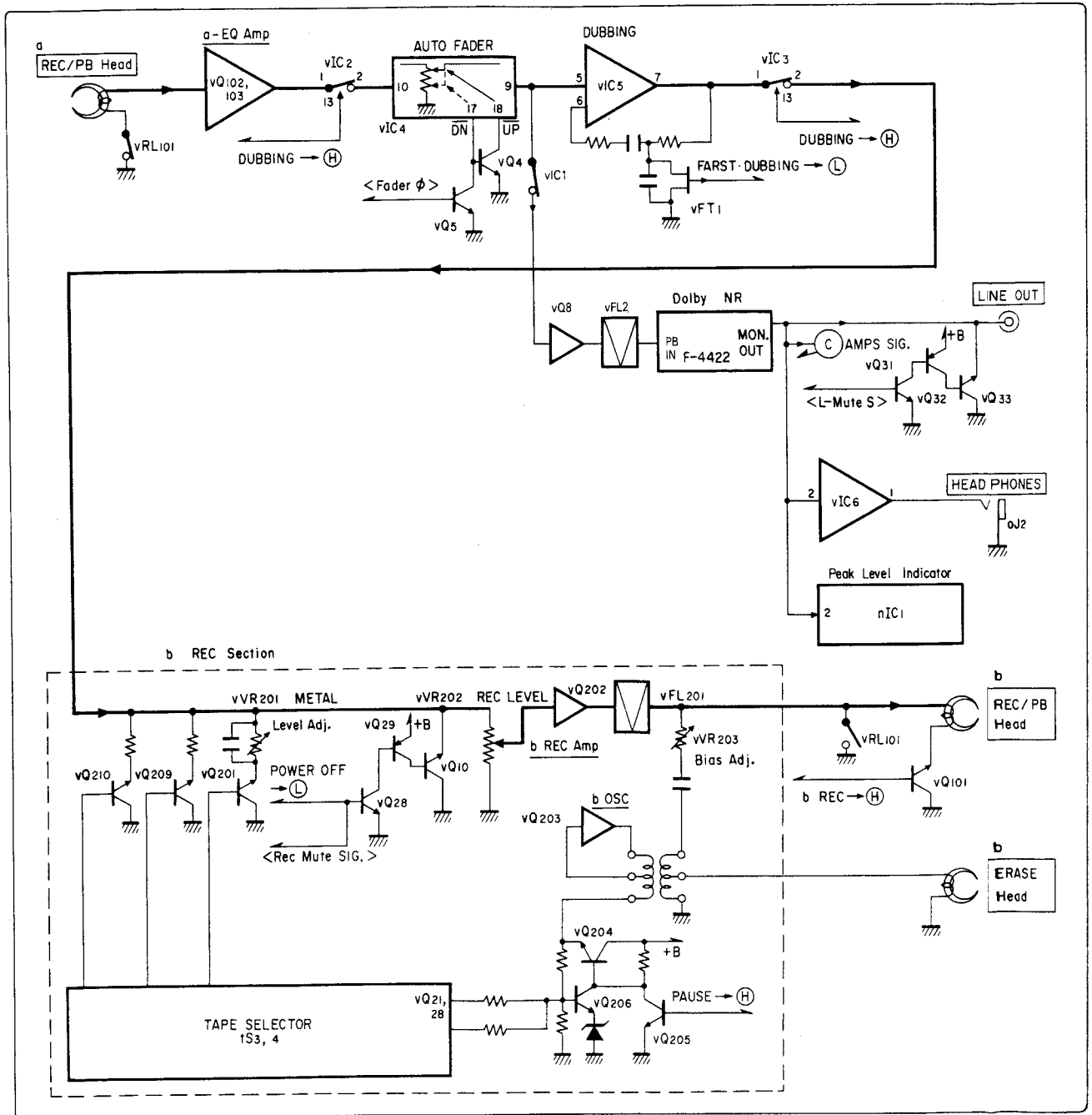
1-2. Playback Section



1-3. Recording Section

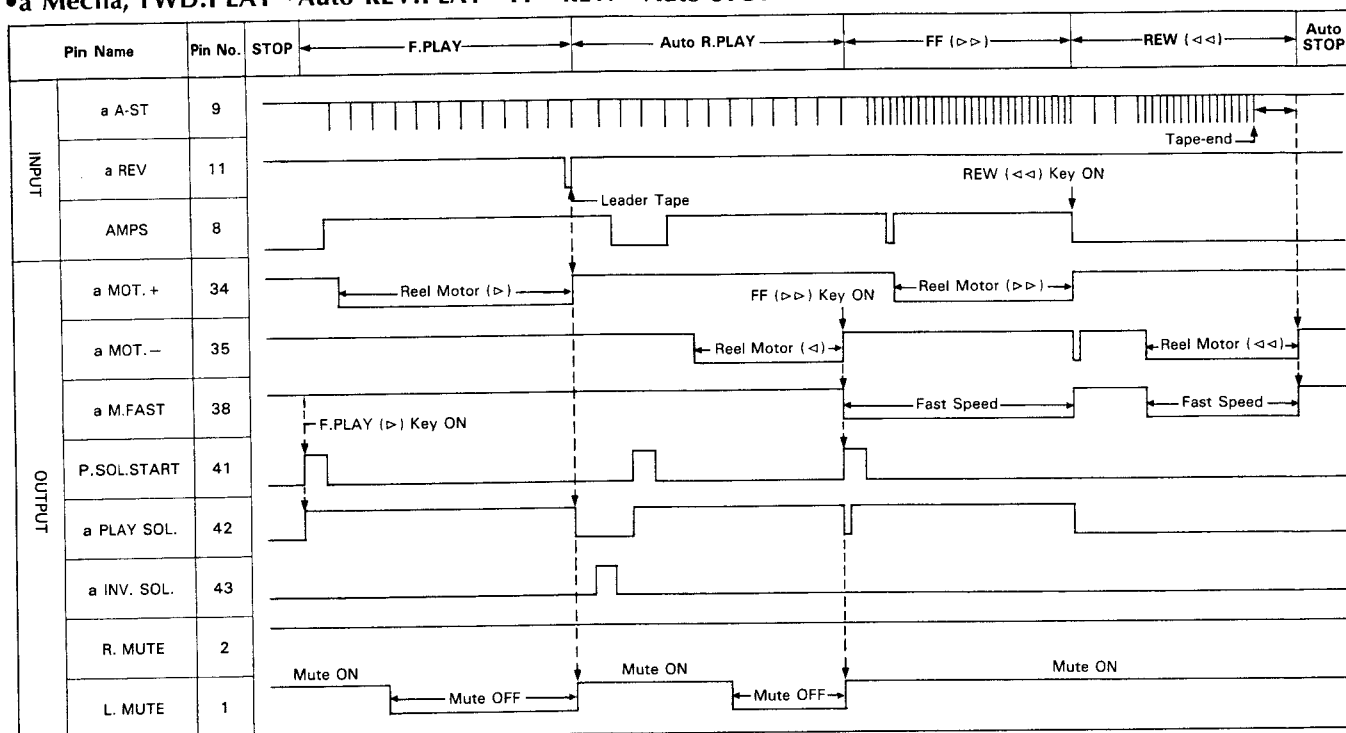


1-4. Dubbing Section

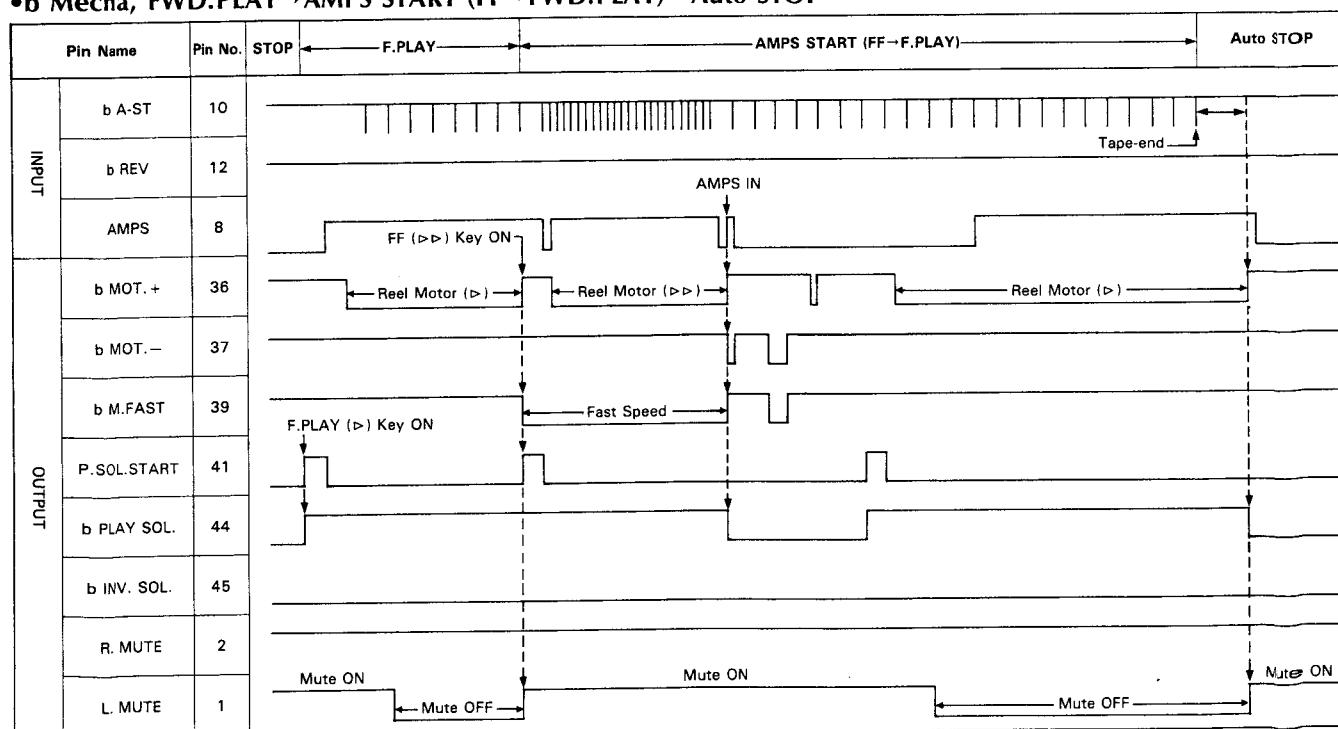


2. TIMING CHART OF IC, MB88421

•a Mecha, FWD.PLAY→Auto REV.PLAY→FF→REW→Auto STOP



•b Mecha, FWD.PLAY→AMPS START (FF→FWD.PLAY)→Auto STOP



3. DESCRIPTION OF IC MB88421, MB8841, LC7530

•MB88421 (Logic Control IC)

Pin No.	I/O	Function
58	O	a Mechanism recording output terminal ("L" active)
59	O	b Mechanism recording output terminal ("L" active)
60	O	a Mechanism bias output terminal ("L" active)
61	O	b Mechanism bias output terminal ("L" active)
21	O	C•EDIT indicator output terminal ("H" active)
22	O	SERIES indicator output terminal ("H" active)
23	O	DUBBING indicator output terminal ("H" active)
24	O	FAST DUBBING indicator output terminal ("H" active)
1	O	Line muting signal output terminal ("H" active)
2	O	REC muting signal output terminal ("H" active)
3	O	DUBBING output terminal ("H" active)
5	O	a Mechanism play output terminal ("H" active)
6	O	b Mechanism play output terminal ("H" active)
7	O	Buzzer output terminal ("H" active)
8	I	AMPS signal input terminal
9	I	a Mechanism auto-stop signal input terminal
10	I	b Mechanism auto-stop signal input terminal
11	I	a Mechanism auto-reverse signal input terminal
12	I	b Mechanism auto-reverse signal input terminal
13	O	LED data send output terminal
14	O	Busy/ready output terminal
15	I	Busy/ready input terminal
34	O	a Mechanism reel motor + output terminal ("H" active)
35	O	a Mechanism reel motor - output terminal ("H" active)
36	O	b Mechanism reel motor + output terminal ("H" active)
37	O	b Mechanism reel motor - output terminal ("H" active)
38	O	a Mechanism reel motor fast output terminal ("L" active)
39	O	b Mechanism reel motor fast output terminal ("L" active)
41	O	PLAY solenoid start output terminal
42	O	a Mechanism PLAY solenoid output terminal ("H" active)
43	O	a Mechanism DIRECTION solenoid output terminal ("H" active)
44	O	b Mechanism PLAY solenoid output terminal ("H" active)
45	O	b Mechanism DIRECTION solenoid output terminal ("H" active)
46	I	a Mechanism half SW. terminal ("L" active)
47	I	b Mechanism half SW. terminal ("L" active)
48	I	a Mechanism FWD. play sensor terminal
49	I	b Mechanism FWD. play sensor terminal
50	I	a Mechanism FWD. rec SW. terminal
51	I	a Mechanism REV. rec SW. terminal
52	I	b Mechanism FWD. rec SW. terminal
53	I	b Mechanism REV. rec SW. terminal
54	O	Fader up/down signal output terminal
55	O	Fader up/down speed 1 output terminal
56	O	Fader up/down speed 2 output terminal
17	I	Timer play terminal ("L" active)
18	I	Timer rec terminal ("L" active)
19	I	Reverse mode 1 terminal ("L" active)
20	I	Reverse mode 2 terminal ("L" active)
28	I	Key data send input terminal
30	O	Shift clock output terminal
31	I	Key data signal input terminal
33	O	LED data signal output terminal

•MB8841 (Key Input/Indicator Output Control IC)

Pin No.	I/O	Function
9	O	b Mechanism REC indicator output terminal ("L" active)
10	O	b Mechanism PAUSE indicator output terminal ("L" active)
11	O	b Mechanism FWD. play indicator output terminal ("L" active)
12	O	b Mechanism REV. play indicator output terminal ("L" active)
13	O	a Segment output terminal ("L" active)
14	O	b Segment output terminal ("L" active)
15	O	g Segment output terminal ("L" active)
16	O	c Segment output terminal ("L" active)
17	O	o indicator output terminal ("L" active)
18	O	f Segment output terminal ("L" active)
19	O	e Segment output terminal ("L" active)
20	O	d Segment output terminal ("L" active)
22	O	Key data send output terminal
23	O	Busy/ready output terminal
24	I	Busy/ready input terminal
25	I	Clock input terminal
26	O	a Mechanism REC indicator output terminal ("L" active)
27	O	a Mechanism PAUSE indicator output terminal ("L" active)
28	O	a Mechanism FWD. play indicator output terminal ("L" active)
29	O	a Mechanism REV. play indicator output terminal ("L" active)
30	O	a Mechanism half indicator output terminal ("L" active)
31	O	b Mechanism half indicator output terminal ("L" active)
32	O	Key scan 0 output terminal
33	O	Key scan 1 output terminal
34	O	Key scan 2 output terminal
35	O	Key scan 3 output terminal
36	O	Key scan 4 output terminal
37	O	Key scan 5 output terminal
38	I	Key return 0 input terminal
39	I	Key return 1 input terminal
40	I	Key return 2 input terminal
41	I	Key return 3 input terminal
4	I	LED data send input terminal
5	O	Key data signal output terminal
6	I	LED data signal input terminal
7	I	Shift clock input terminal

•LC7530 (Auto Fader IC)

Pin No.	Pin Name	Function
9	SIG 1	L-ch signal input terminal
14	SIG 2	R-ch signal input terminal
10	COM 1	L-ch signal output terminal
13	COM 2	R-ch signal output terminal
11	V _m	Bias terminal
12	V _{ss}	GND terminal
17	DN	Volume level down control terminal ("L" active)
18	UP	Volume level up control terminal ("L" active)
19	CR	Down/up step speed control terminal
20	V _{DD}	Power supply terminal

4. ADJUSTMENTS

4-1. Tape Speed Adjustment

- Adjust the tape speed of b-side as fast as a-side.
- Note:** 1. Use Sansui Test Tape, SCT-S3K.
(3 kHz signals are recorded on the tape).
2. Connections are shown in Fig. 4-1.

Fig. 4-1

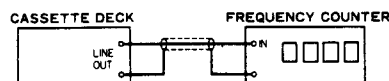
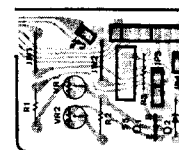


Fig. 4-2

<F-3748>



1) Tape Speed Adjustment (NORMAL SPEED)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (NORMAL)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR1) of A Side Mecha. as Fig. 4-2.	3000Hz $\pm$ 30Hz	Use small screw driver.
2.	B Side Mecha. (NORMAL)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR1) of B Side Mecha. as Fig. 4-2.	3000Hz $\pm$ 30Hz	

2) Tape Speed Adjustment (HIGH SPEED)

- Note:** 1. Before this adjustment, regulate "4-1. Tape Speed Adjustment (NORMAL SPEED)".
2. Short between jW2 (Cross Conductor) & R3 (Resistor) on F-3748. (See Fig. 4-2)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (HIGH)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR2) of A Side Mecha. as Fig. 4-2.	6000Hz $\pm$ 60Hz	Use small screw driver.
2.	B Side Mecha. (HIGH)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR2) of B Side Mecha. as Fig. 4-2.	6000Hz $\pm$ 60Hz	

4-2. Playback Adjustment

- Note:** 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10K, and SCT-L400.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 4-3.

Fig. 4-3

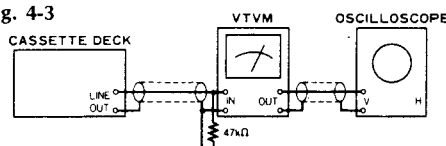
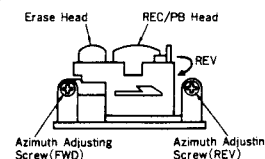


Fig. 4-4



1) a-Side Mecha. Adjustment

Note: Push a-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 4-4.	MAX. Output both channels on FWD and REV PLAY	Refer to removal of Lide Ass'y on Page 23. After this adjustment, lock the screw with paint.
2.	Playback Level Pre Adj.	Between across vR1 (L-CH and R-CH, F-4670) VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR101 (L-CH and R-CH, F-4678)	10mV $\pm$ 2dB	See Top View on Page 18.
3.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR2 (L-CH and R-CH, F-4670)	420mV $\pm$ 2dB	See Top View on Page 18.

2) b-Side Mecha. Adjustment

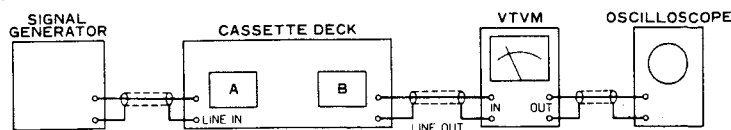
Note: Push b-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 4-4.	MAX. Output both channels on FWD and REV PLAY	Refer to removal of Lide Ass'y on Page 23. After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR101 (L-CH and R-CH, F-4678)	420mV $\pm$ 2dB	See Top View on Page 18.

4-3. REC Level & Frequency Response Adjustment

Note: 1. Connections are shown in Fig. 4-5.
2. Set the Dolby NR switch to be OFF.

Fig. 4-5



1) a-Side Mecha. Adjustment

Note: Push a-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR202 (L-CH and R-CH, F-4679) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 18.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level $\pm 2\text{dB}$ on VTVM.	1.If not, adjust vVR203 (L-CH and R-CH, F-4679) slightly until the 10kHz signal level in less than 1kHz signal level $\pm 2\text{dB}$ on VTVM.	See Top View on Page 18.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR201 (L-CH and R-CH, F-4679) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 18.

2) b-Side Mecha. Adjustment

Note: Push b-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR202 (L-CH and R-CH, F-4679) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 18.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level $\pm 2\text{dB}$ on VTVM.	1.If not, adjust vVR203 (L-CH and R-CH, F-4679) slightly until the 10kHz signal level in less than 1kHz signal level $\pm 2\text{dB}$ on VTVM.	See Top View on Page 18.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR201 (L-CH and R-CH, F-4679) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 18.

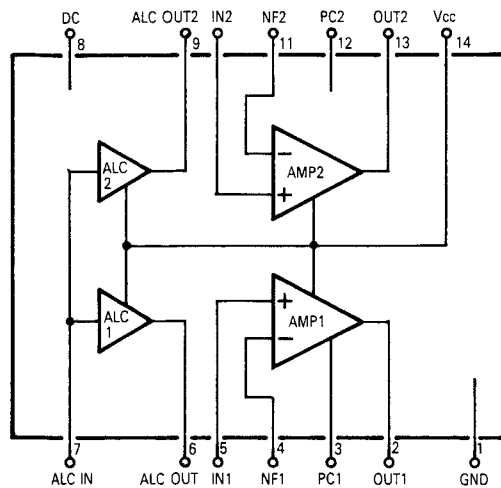
◆ List of Sansui Test Tape

Name of TEST TAPE	Recorded Frequency	Description	Equivalent To
SCT-F40	40 Hz	Playback Frequency Response Check	—
SCT-F1K	1 kHz	High Frequency Equalization Check	—
SCT-F10K	10 kHz	REC/PB Head Adjustment	—
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment	—
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check	—
*SCT-AD (NORMAL)	—	Recording Bias Adjustment	TDK AD
*SCT-SA (HIGH)	—	REC/PB Level Adjustment	TDK SA
*SCT-MA (METAL)	—	Frequency Response Check	TDK MA

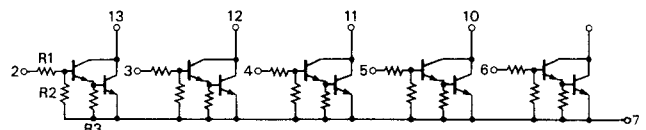
•**Note:** Some reference tapes marked * are not supplied.
As these are equivalent to ones indicated above, please obtain these blank tapes on your side as possible.

5. INTERIOR BLOCK DIAGRAM OF IC

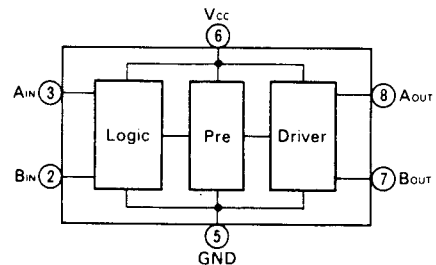
•LA3220 (ALC & PB EQ.Amp. IC)



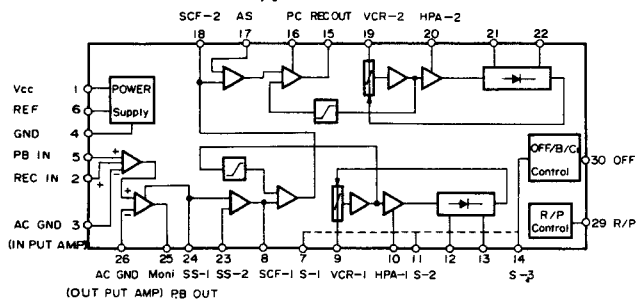
•BA-612 (Drive IC)



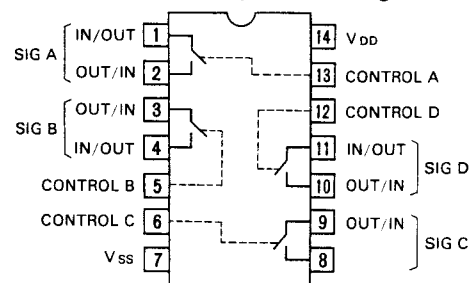
•BA6208 (Motor Drive IC)



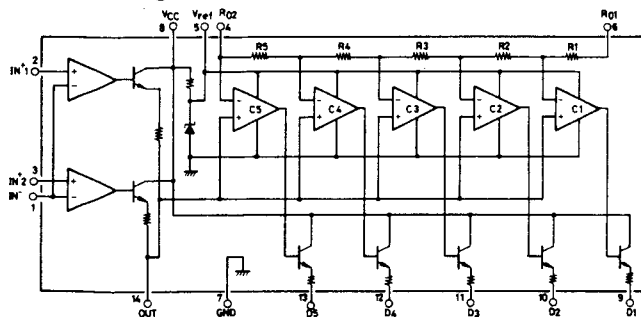
•HA12058NT (B & C-type DOLBY Noise Reduction IC)



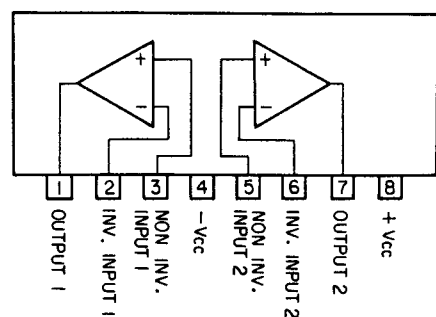
•TC4066BP/μPD4066BC (Quard Analog SW. IC)



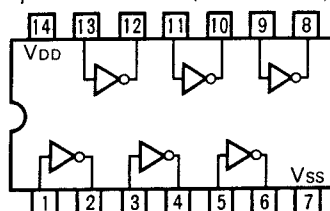
•LB-1416 (Signal Indicator Drive)



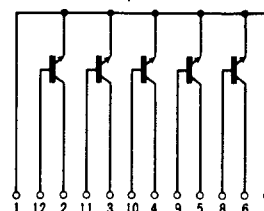
•M5218L (OP AMP. IC)



•MSM4069RS/μPD4069UBC (Inverter IC)

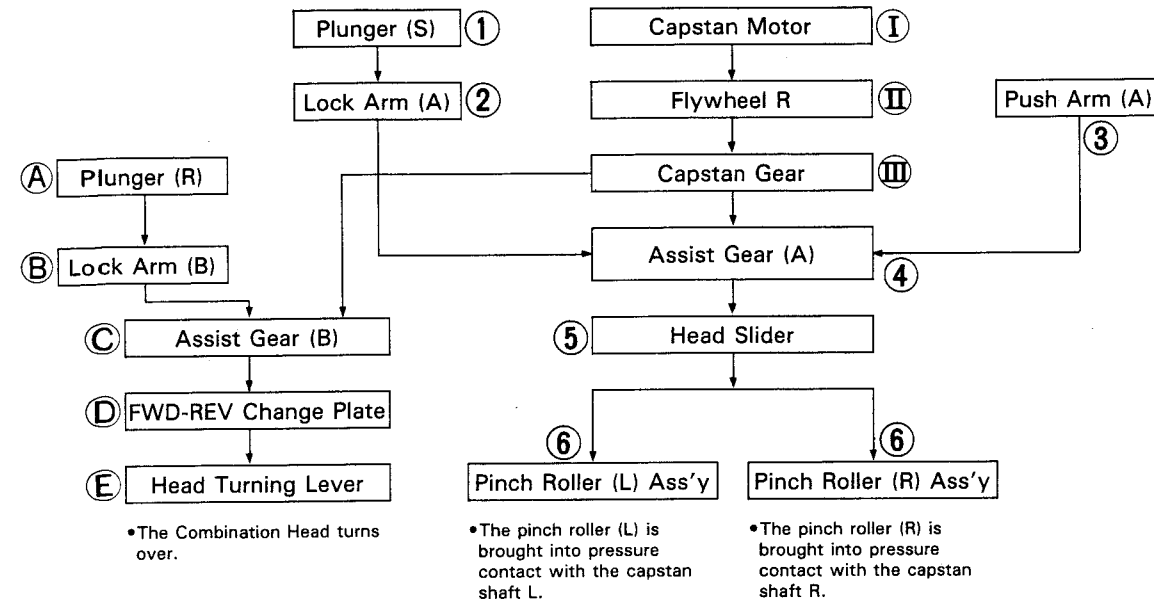


•TA78 (5 Array Transistor)

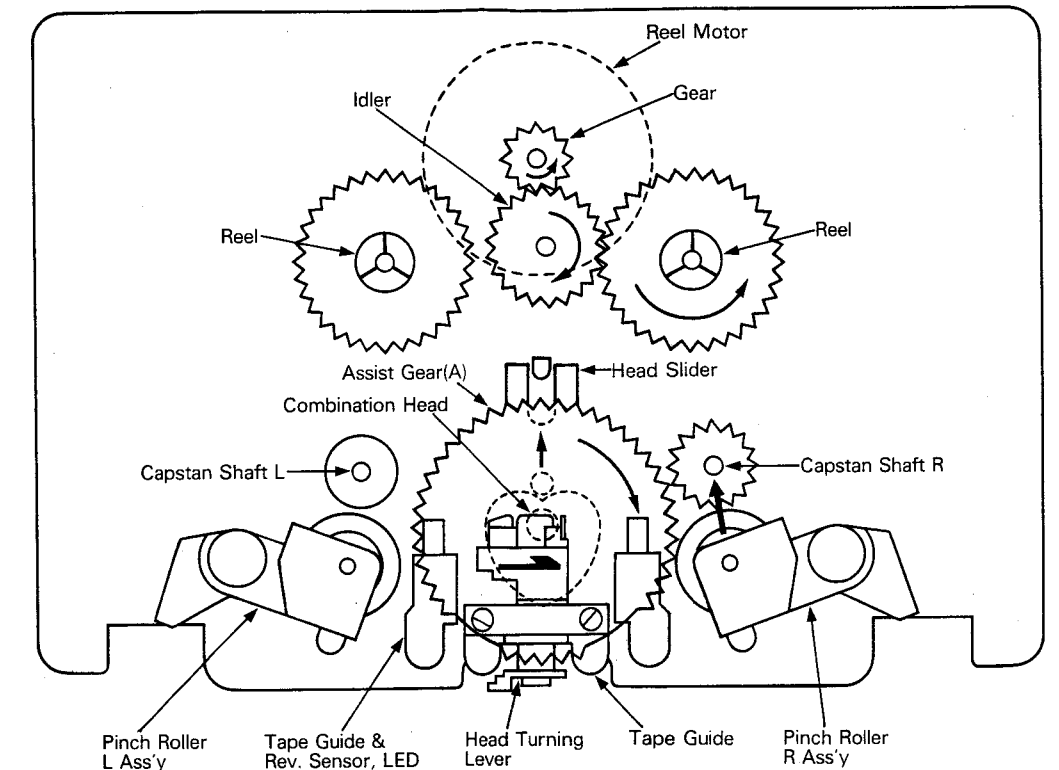


6. OPERATIONS OF PINCH ROLLER & COMBINATION HEAD

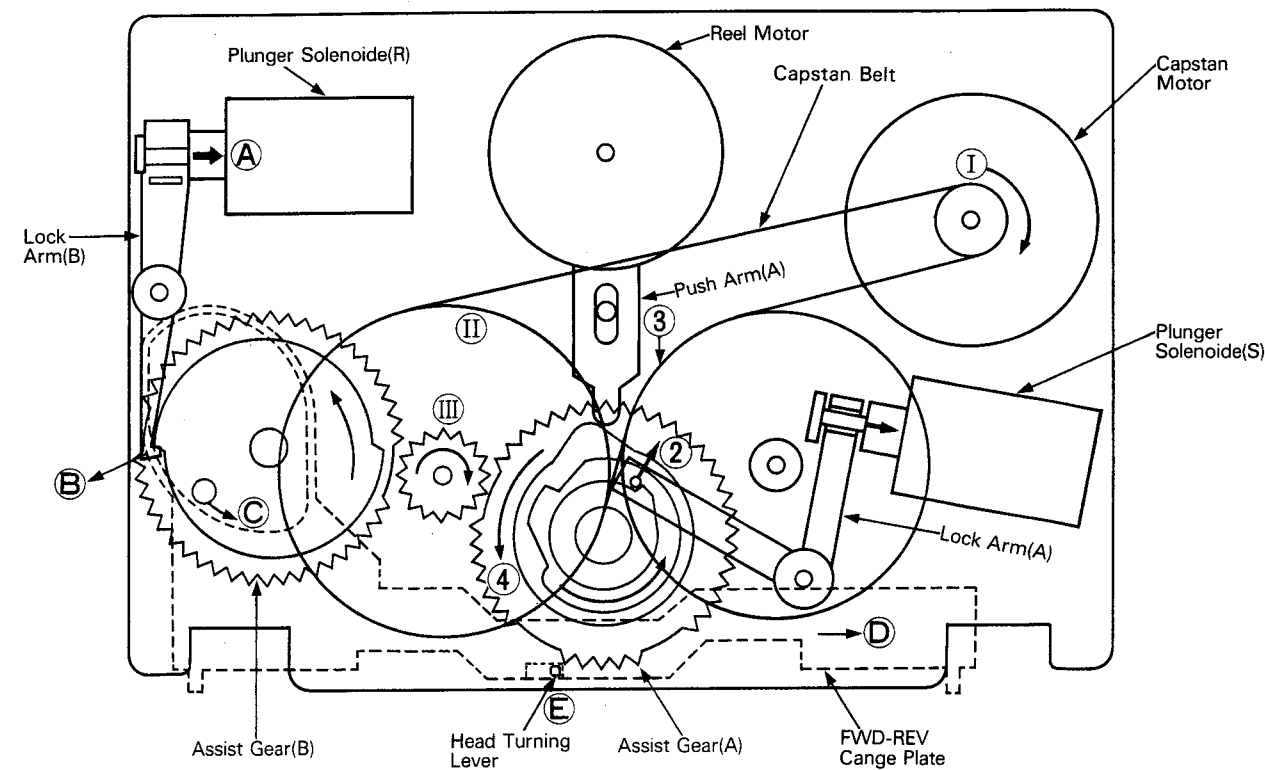
6-1. Torque Transportation Flowchart



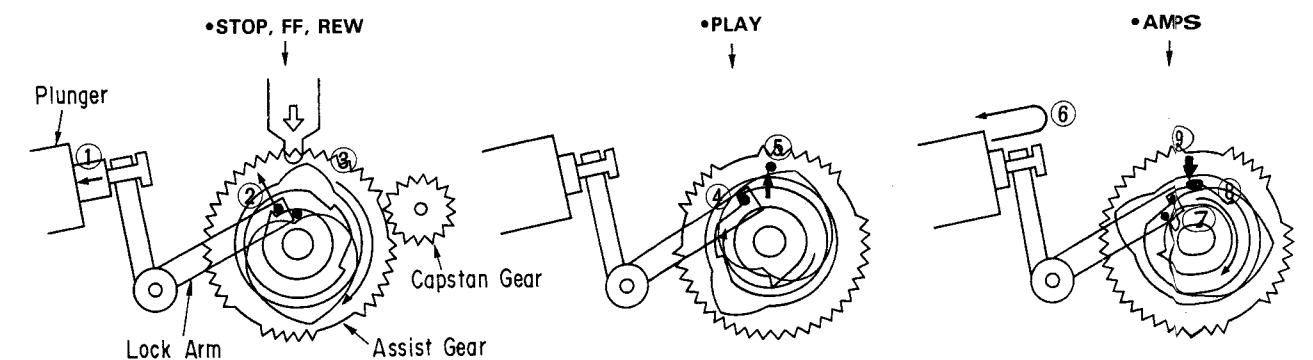
6-3. Front View of Mechanism Chassis



6-2. Rear View of Mechanism Chassis



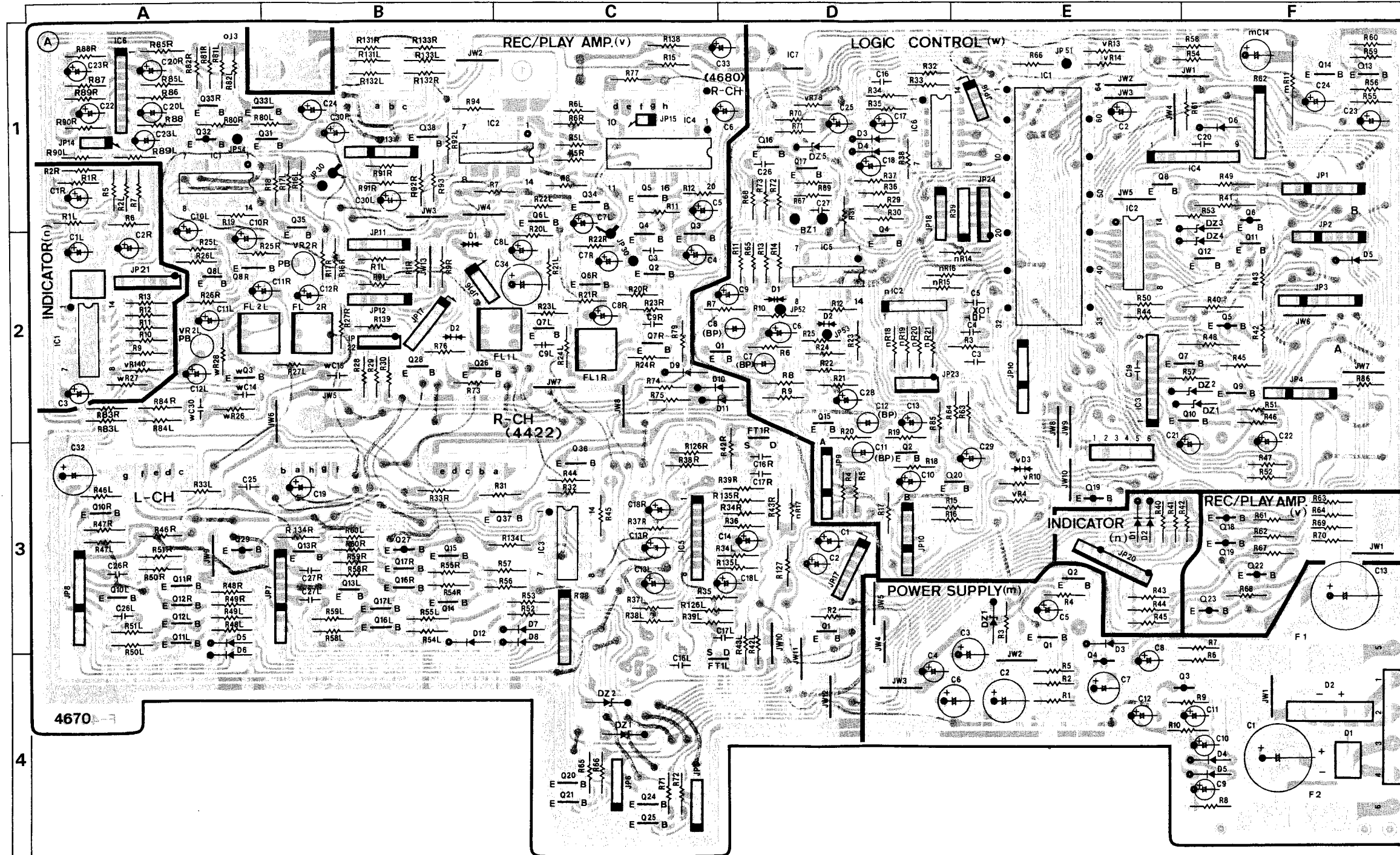
6-4. Cam Positions in the Modes of PLAY, FF, REW & STOP



7. PARTS LOCATION & PARTS LIST

7-1. F-4670 Main Circuit Board (Stock No. 00837801)

Component Side



Parts List

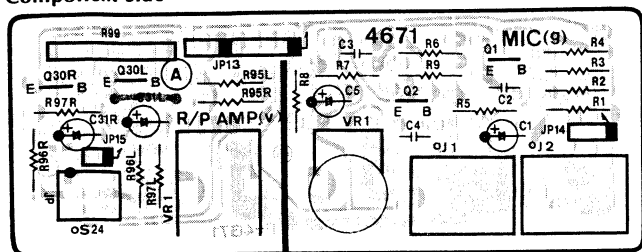
Parts No.	Stock No.	Description
•Transistor		
ΔmQ1	03086101	2SD357
mQ2	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
mQ3	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
mQ4	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
•Diode		
ΔmD1	46273600	DBB10-B
ΔmD2	03117000	RB152-LFF
mD3	03117600	1S2473T77
mD4	03117600	1S2473T77
mD5	03117600	1S2473T77
•Zener Diode		
mDZ1	46111700	05Z6.2-X
	or 46111800	05Z6.2-Y
ΔmR1	00111500	150Ω 1/4W F.R.
ΔmR2	00111500	150Ω 1/4W F.R.
mR11	00185500	10Ω 2W N.I.R.
•IC		
nIC1	03611600	LB1416
nIC2	46502800	TA78
•Diode		
nD1	03117600	1S2473T77
nD2	03117600	1S2473T77
oJ3	46371500	4P Terminal Board LINE IN/LINE OUT
•Transistor		
vQ1	46719900	DTC124
vQ2	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ3	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ4	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ5	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ6	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ7	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ8	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ10	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ11	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ12	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ13	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S

Parts List <F-4670>

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
vQ14	46367101	2SC2603	vIC3	46421000	UPD4066BC	wQ15	46367101	2SC2603
or	46391901	2SC2785	or	48054500	MSM4066BRS	or	46391901	2SC2785
or	48058801	2SC1740S	or	48063800	BU4066B	or	48058801	2SC1740S
vQ15	46367101	2SC2603	vIC4	46671600	LC7530	wQ16	46367101	2SC2603
or	46391901	2SC2785	vIC5	46078900	M5218L	or	46391901	2SC2785
or	48058801	2SC1740S	vIC6	46078900	M5218L	or	48058801	2SC1740S
vQ16	46367101	2SC2603	•Diode			wQ17	46367101	2SC2603
or	46391901	2SC2785	vD1	46464000	MC921	or	46391901	2SC2785
or	48058801	2SC1740S	vD2	46464000	MC921	or	48058801	2SC1740S
vQ17	46367101	2SC2603	vD3	46464000	MC921	wQ19	46923300	DTA124ES
or	46391901	2SC2785	vD5	03117600	1S2473T77	wQ20	46367101	2SC2603
or	48058801	2SC1740S	vD6	03117600	1S2473T77	or	46391901	2SC2785
vQ18	46367001	2SA1115	vD7	03117600	1S2473T77	or	48058801	2SC1740S
or	46392001	2SA1175	vD8	03117600	1S2473T77	•IC		
or	48058601	2SA933S	vD9	03117600	1S2473T77	wIC1	48109400	M888421-161M
vQ19	46367001	2SA1115	vD10	03117600	1S2473T77	wIC2	46397500	BA612
or	46392001	2SA1175	vD11	03117600	1S2473T77	wIC3	46149600	BA6208
or	48058601	2SA933S	vD12	03117600	1S2473T77	wIC4	46149600	BA6208
vQ20	46367101	2SC2603	•Zener Diode			wIC5	46427000	UPD4069UBC
or	46391901	2SC2785	vDZ1	46111100	05Z5.1-X	or	48050700	MSM4069UBRS
or	48058801	2SC1740S	or	46111200	05Z5.1-Y	or	48063900	BU4069UB
vQ21	46367101	2SC2603	vDZ2	46111100	05Z5.1-X	wIC6	46427000	UPD4069UBC
or	46391901	2SC2785	or	46111200	05Z5.1-Y	or	48050700	MSM4069UBRS
or	48058801	2SC1740S	vR98	46346800	100k Ω $\times$ 6 1/8W A.R.	or	48063900	BU4969UB
vQ22	46367001	2SA1115				or	48156500	HD14069UBP
or	46392001	2SA1175				wIC7	46359400	L78NO5
or	48058601	2SA933S						
vQ23	46367001	2SA1115	vFL1	46177501	Dolby Filter	wXQ1	46505500	Ceramic Element
or	46392001	2SA1175	vFL2	46935500	Low Pass Filter (85kHz)			K8R-3.58M
or	48058601	2SA933S	vVR2	46839300	1k Ω S.V.R., P.B. Level Adj.	•Diode		
vQ24	46367101	2SC2603				wD1	46464000	MC921
or	46391901	2SC2785	•Transistor			wD2	46464000	MC921
or	48058801	2SC1740S	wQ	46367101	2SC2603	wD3	03117600	1S2473T77
vQ25	46367101	2SC2603	or	46391901	2SC2785	wD4	03117600	1S2473T77
or	46391901	2SC2785	or	48058801	2SC1740S	wD5	03117600	1S2473T77
or	48058801	2SC1740S	wQ2	46367101	2SC2603	wD6	03117600	1S2473T77
vQ26	46719900	DTC124	or	46391901	2SC2785	•Zener Diode		
vQ27	46719800	DTA124	or	48058801	2SC1740S	wDZ1	46111100	05Z5.1-X
vQ28	46719900	DTC124	or	46391901	2SC2785	or	46111200	05Z5.1-Y
vQ29	46719800	DTA124	or	48058801	2SC1740S	wDZ2	46111700	05Z6.2-X
vQ31	46367101	2SC2603	or	46391901	2SC2785	or	46111800	05Z6.2-Y
or	46391901	2SC2785	or	48058801	2SC1740S	wDZ3	46111700	05Z6.2-X
or	48058801	2SC1740S	or	46391901	2SC2785	or	46111800	05Z6.2-Y
vQ32	46719800	DTA124	or	48058801	2SC1740S	wDZ4	46111100	05Z5.1-X
vQ33	46367101	2SC2603	or	46391901	2SC2785	or	46111200	05Z5.1-Y
or	46391901	2SC2785	or	48058801	2SC1740S	wDZ5	46113000	05Z9.1-Y
or	48058801	2SC1740S	or	46391901	2SC2785	or	46113100	05Z9.1-Z
vQ34	46367101	2SC2603	wQ5	46359701	2SA952	ΔwR11	00192400	8 Ω 2W N.I.R.
or	46391901	2SC2785	or	46614001	2SA1283	wR39	46341500	47k Ω $\times$ 4 1/8W A.R.
or	48058801	2SC1740S	or	48000801	2SA934	ΔwR40	00184900	8 Ω 1W N.I.R.
vQ35	46367101	2SC2603	wQ6	46359701	2SA952	ΔwR41	00184900	8 Ω 1W N.I.R.
or	46391901	2SC2785	or	46614001	2SA1283	ΔwR48	00181100	2 Ω 1W N.I.R.
or	48058801	2SC1740S	or	48000801	2SA934	ΔwR49	00181100	2 Ω 1W N.I.R.
vQ36	46367101	2SC2603	or	46391901	2SC2785	wR62	46345200	47k Ω $\times$ 6 1/8W A.R.
or	46391901	2SC2785	wQ7	46614101	2SC3243	wC7	08451000	1 μ F 16V E.B.
or	48058801	2SC1740S	wQ8	46614101	2SC3243	wC8	08450800	33 μ F 16V E.B.
vQ37	46719900	DTC124	wQ9	46367101	2SC2603	wC11	08451000	1 μ F 16V E.B.
vQ38	46367101	2SC2603	or	46391901	2SC2785	wC12	08450800	33 μ F 16V E.B.
or	46391901	2SC2785	or	48058801	2SC1740S	wBZ1	07244900	Buzzer PKM12
or	48058801	2SC1740S	or	46391901	2SC2785			
•FET			or	48058801	2SC1740S			
vFT1	46643800	2SJ103-Y	wQ10	46367101	2SC2603			
or	46643801	2SJ103-GR	or	46391901	2SC2785			
or	46643802	2SJ103-BL	or	48058801	2SC1740S			
•IC			or	46391901	2SC2785			
vIC1	46421000	UPD4066BC	or	48058801	2SC1740S			
or	48054500	MSM4066BRS	wQ11	46367101	2SC2603			
or	48063800	BU4066B	or	46391901	2SC2785			
vIC2	46421000	UPD4066BC	or	48058801	2SC1740S			
or	48054500	MSM4066BRS	wQ12	46367101	2SC2603			
or	48063800	BU4066B	or	46391901	2SC2785			
			or	48058801	2SC1740S			
			wQ13	46367101	2SC2603			
			or	46391901	2SC2785			
			or	48058801	2SC1740S			
			wQ14	46367101	2SC2603			
			or	46391901	2SC2785			
			or	48058801	2SC1740S			

7-2. F-4671 MIC Amp. Circuit Board (Stock No. 00837901)

Component Side



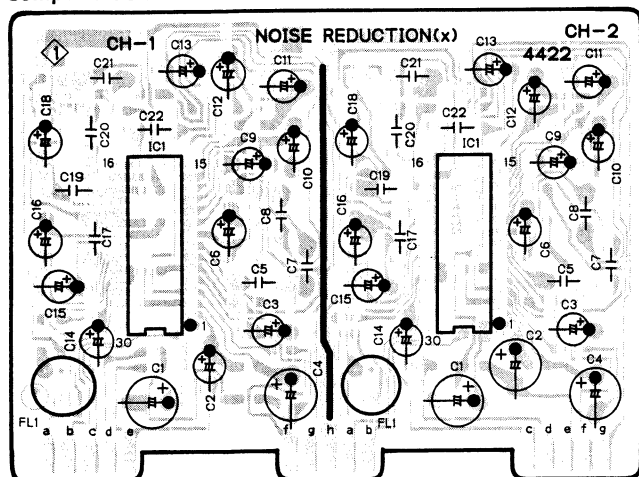
Parts List

Parts No.	Stock No.	Description
• Transistor		
gQ1	46577801	2SC2320L
	or 46581701	2SC1845
	or 46947401	2SC2459
gQ2	46577801	2SC2320L
	or 46581701	2SC1845
	or 46947401	2SC2459

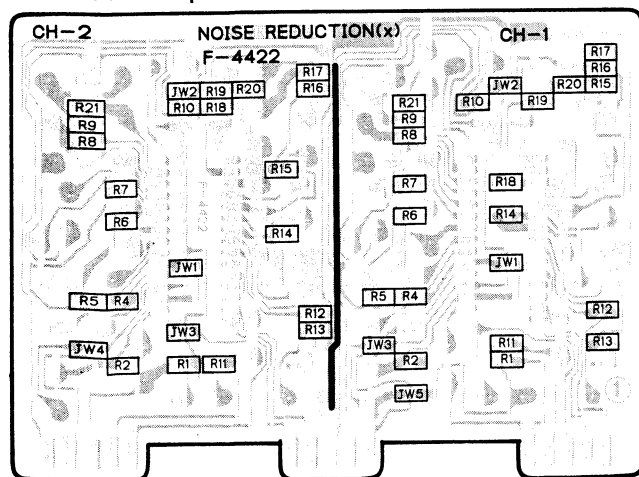
Parts No.	Stock No.	Description
gVR1	48080700	20k Ω (A) V.R., MIC
oS24	46556400	Push SW., REC LEVEL
oJ1	48109200	Jack, MIC
oJ2	46706300	Jack, PHONES
• Transistor		
vQ30	46577801	2SC2320L
	or 46581701	2SC1845
	or 46947401	2SC2459
vR99	48076000	100k Ω $\times$ 4 A.R.
vVR1	48080800	20k Ω (A) V.R., REC LEVEL

7-3. F-4422 Noise Reduction Circuit Board (Stock No. 00775301)

Component Side



Pattern Side <Chip Parts>



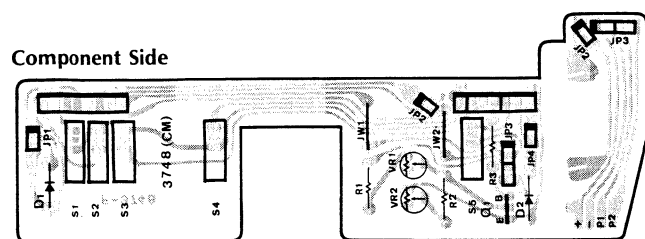
Parts List (Component Side)

Parts No.	Stock No.	Description
• IC		
xIC1	46671900	HA12058NT
xFL1	46177600	Trap Filter (19.8kHz)

Parts List (Pattern Side <Chip Parts>)

Parts No.	Stock No.	Description
xJW1	46741100	Cross Conductor (Chip)
xJW2	46741100	Cross Conductor (Chip)
xJW3	46741100	Cross Conductor (Chip)
xJW4	46741100	Cross Conductor (Chip)
xJW5	46741100	Cross Conductor (Chip)
xR1	46754000	470k Ω 1/8W Chip R.
xR2	46749400	5.6k Ω 1/8W Chip R.
xR4	46749800	8.2k Ω 1/8W Chip R.
xR5	46748800	3.3k Ω 1/8W Chip R.
xR6	46750900	24k Ω 1/8W Chip R.
xR7	46749500	6.2k Ω 1/8W Chip R.
xR8	46752200	82k Ω 1/8W Chip R.
xR9	46754800	1M Ω 1/8W Chip R.
xR10	46752200	82k Ω 1/8W Chip R.
xR11	46752200	82k Ω 1/8W Chip R.
xR12	46748800	3.3k Ω 1/8W Chip R.
xR13	46747600	1k Ω 1/8W Chip R.
xR14	46752200	82k Ω 1/8W Chip R.
xR15	46749500	6.2k Ω 1/8W Chip R.
xR16	46751600	47k Ω 1/8W Chip R.
xR17	46746800	470 Ω 1/8W Chip R.
xR18	46749200	4.7k Ω 1/8W Chip R.
xR19	46750000	10k Ω 1/8W Chip R.
xR20	46752000	68k Ω 1/8W Chip R.
xR21	46754800	1M Ω 1/8W Chip R.

7-4. F-3748 HALF & PREVENTION TAB SENSOR SW. Board

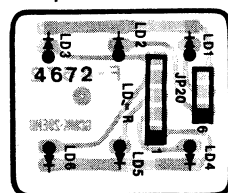


Parts List

Parts No.	Stock No.	Description
• Transistor		
tQ1	07206901	2SC2001
• Diode		
tD1	03111600	1S2473D
tD2	03111600	1S2473D
tVR1	46839400	2.2k Ω S.V.R., NORMAL SPEED
tVR2	46839500	4.7k Ω S.V.R., HIGH SPEED
tS1	47292700	Leaf SW., half sensor
tS2	47292700	Leaf SW., prevention tab sensor (for A-side)
tS3	47292700	Leaf SW., tape sel. HIGH
tS4	47292700	Leaf SW., tape sel. METAL
tS5	47292700	Leaf SW., prevention tab sensor (for B-side)

7-5. F-4672 AUTO TAPE SELECTOR Indicators Board

Component Side

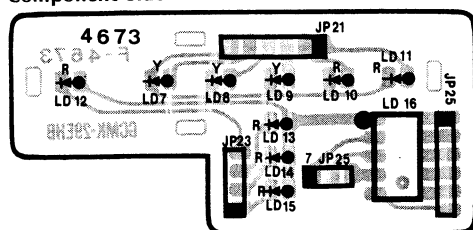


Parts List

Parts No.	Stock No.	Description
• LED		
nLD1	46176900	TLS-123
nLD2	46176900	TLS-123
nLD3	46176900	TLS-123
nLD4	46176900	TLS-123
nLD5	46176900	TLS-123
nLD6	46176900	TLS-123

7-6. F-4673 PEAK LEVEL Indicator Board

Component Side

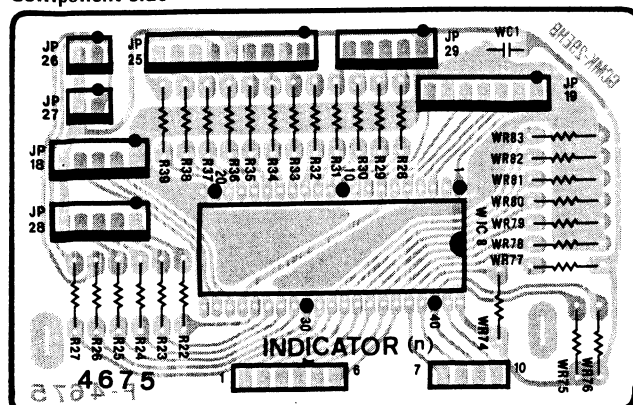


Parts List

Parts No.	Stock No.	Description
• LED		
nLD7	07251000	TLY-123
nLD8	07251000	TLY-123
nLD9	07251000	TLY-123
nLD10	46176900	TLS-123
nLD11	46176900	TLS-123
nLD12	46176900	TLS-123
nLD13	46176900	TLS-123
nLD14	46176900	TLS-123
nLD15	46176900	TLS-123
nLD16	48069000	GL-9P03D

7-7. F-4675 Input/Output Control Circuit Board (Stock No. 00838301)

Component Side

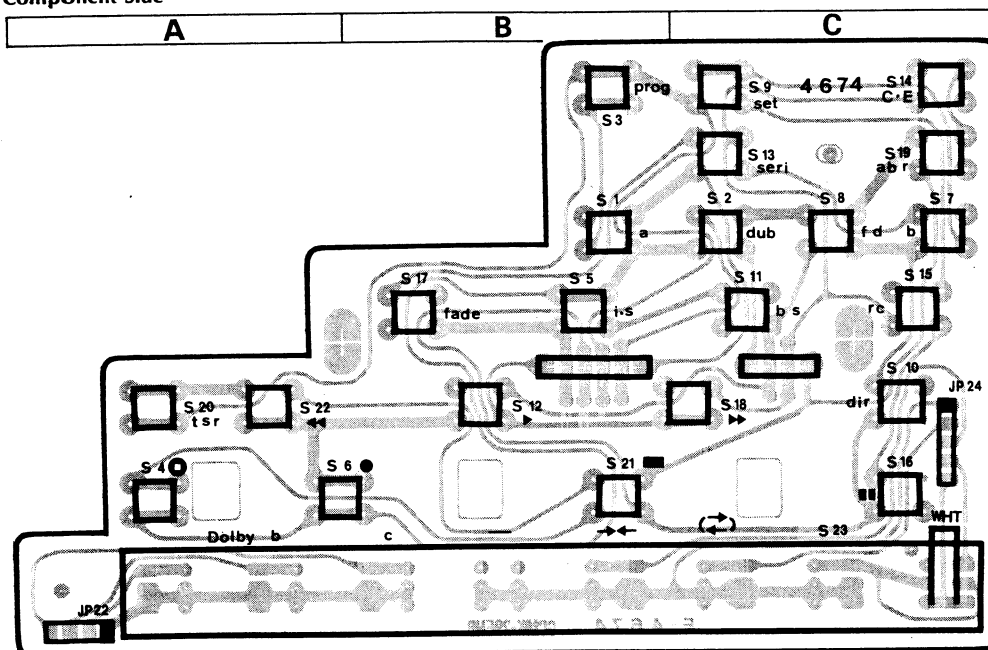


Parts List

Parts No.	Stock No.	Description
• IC		
wIC8	48109300	MB8841H-1357K
wR1	46341500	4.7k Ω $\times$ 4 1/8W A.R.
wR2	46345200	4.7k Ω $\times$ 6 1/8W A.R.

7-8. F-4674 Control SW. Circuit Board

Component Side



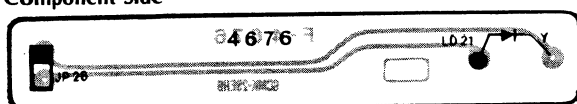
Parts List

Parts No.	Stock No.	Description
oS1	46549500	Push SW., a
oS2	46549500	Push SW., DUBBING ▷
oS3	46549500	Push SW., PROGRAM
oS4	46549500	Push SW., REC. MUTE
oS5	46549500	Push SW., INTRO SKIP
oS6	46549500	Push SW., REC
oS7	46549500	Push SW., b
oS8	46549500	Push SW., DUBBING 2 × ▷
oS9	46549500	Push SW., SET
oS10	46549500	Push SW., DIRECTION
oS11	46549500	Push SW., BLANK SEARCH
oS12	46549500	Push SW., PLAY

Parts No.	Stock No.	Description
oS13	46549500	Push SW., SERIES
oS14	46549500	Push SW., COMPU EDIT
oS15	46549500	Push SW., RCPS
oS16	46549500	Push SW., PAUSE
oS17	46549500	Push SW., AUTO FADER
oS18	46549500	Push SW., F.F
oS19	46549500	Push SW., REC ONLY a b
oS20	46549500	Push SW., TSR
oS21	46549500	Push SW., STOP
oS22	46549500	Push SW., REW
oS23	48080900	Push SW., DOLBY NR/REVERSE MODE/TIMER

7-9. F-4676 b-Half Indicator Board

Component Side



Parts List

Parts No.	Stock No.	Description
•LED		
nLD21	48157400	LD-702YY

7-11. F-4736 TAPE OPERATION Indicators Board

Component Side

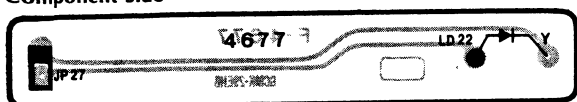


Parts List

Parts No.	Stock No.	Description
•LED		
nLD17	48069100	LD-6021MT
nLD18	48069100	LD-6021MT
nLD19	48120400	LD-6021YT
nLD20	48120300	LD-6021VT

7-10. F-4677 a-Half Indicator Board

Component Side

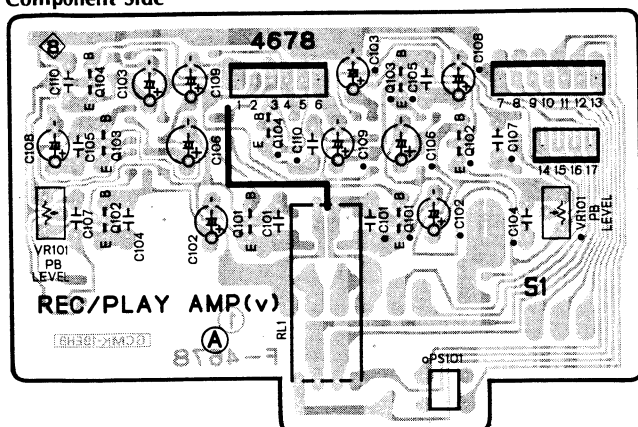


Parts List

Parts No.	Stock No.	Description
•LED		
nLD22	48157400	LD-702YY

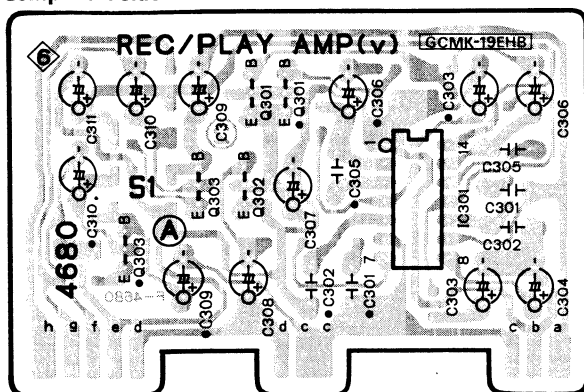
7-12. F-4678 PLAY Amp. Circuit Board (Stock No. 00838601)

Component Side

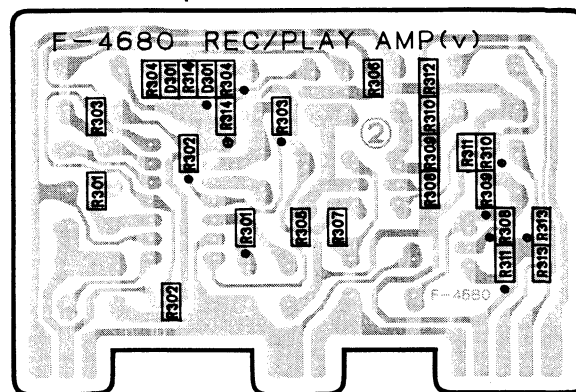


7-14. F-4680 Auto Level Control Circuit Board (Stock No. 00838801)

Component Side



Pattern Side <Chip Parts>



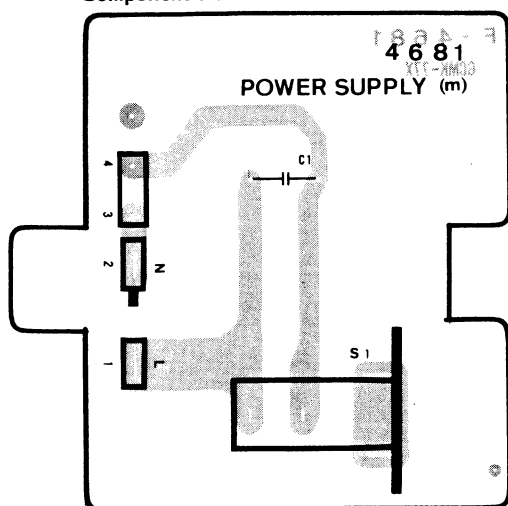
Parts List

Parts No.	Stock No.	Description
•Transistor		
vQ301	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ302	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ303	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•IC		
vIC301	46899000	LA3220
•Diode		
vD301	46852000	RLS-73

Parts No.	Stock No.	Description
vR301	46750000	10k Ω 1/8W Chip R.
vR302	46746800	470 Ω 1/8W Chip R.
vR303	46751000	27k Ω 1/8W Chip R.
vR304	46745200	100 Ω 1/8W Chip R.
vR305	46754800	1M Ω 1/8W Chip R.
vR306	46749200	4.7k Ω 1/8W Chip R.
vR307	46750000	10k Ω 1/8W Chip R.
vR308	46753200	220k Ω 1/8W Chip R.
vR309	46754000	470k Ω 1/8W Chip R.
vR310	46749200	4.7k Ω 1/8W Chip R.
vR311	46748000	1.5k Ω 1/8W Chip R.
vR312	46746800	470 Ω 1/8W Chip R.
vR313	46750800	22k Ω 1/8W Chip R.
vR314	46754800	1M Ω 1/8W Chip R.

7-15. F-4681 POWER SW. Circuit Board

Component Side



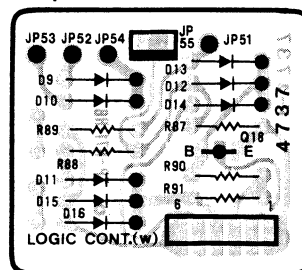
Parts List

Parts No.	Stock No.	Description
Δ pC1	46425800	0.01 μ F 400V C.C.
Δ pS1	46413900	Push SW., POWER (XX, UL, EU, BS)
Δ	48065200	Push SW., POWER (CSA)

7-16. F-4737 Logic Control Circuit Board

Component Side

(Stock No. 00867401)

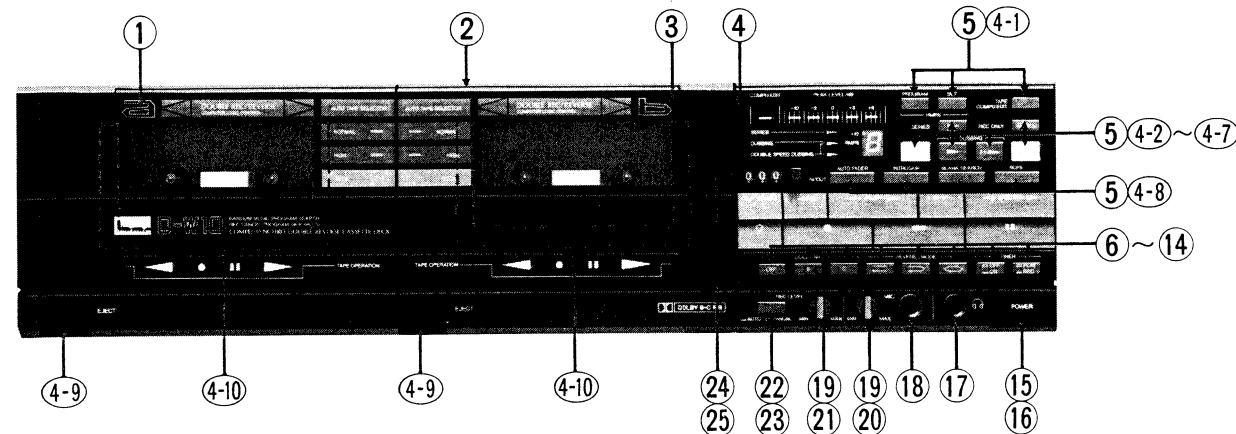


Parts List

Parts No.	Stock No.	Description
•Transistor		
wQ18	46923300	DTA124ES
•Diode		
wD9	03111800	1S1588
	or 07176400	1S2473HS
wD10	03111800	1S1588
	or 07176400	1S2473HS
wD11	03111800	1S1588
	or 07176400	1S2473HS
wD12	03111800	1S1588
	or 07176400	1S2473HS
wD13	03111800	1S1588
	or 07176400	1S2473HS
wD14	03111800	1S1588
	or 07176400	1S2473HS
wD15	03111800	1S1588
	or 07176400	1S2473HS
wD16	03111800	1S1588
	or 07176400	1S2473HS

8. OTHER PARTS

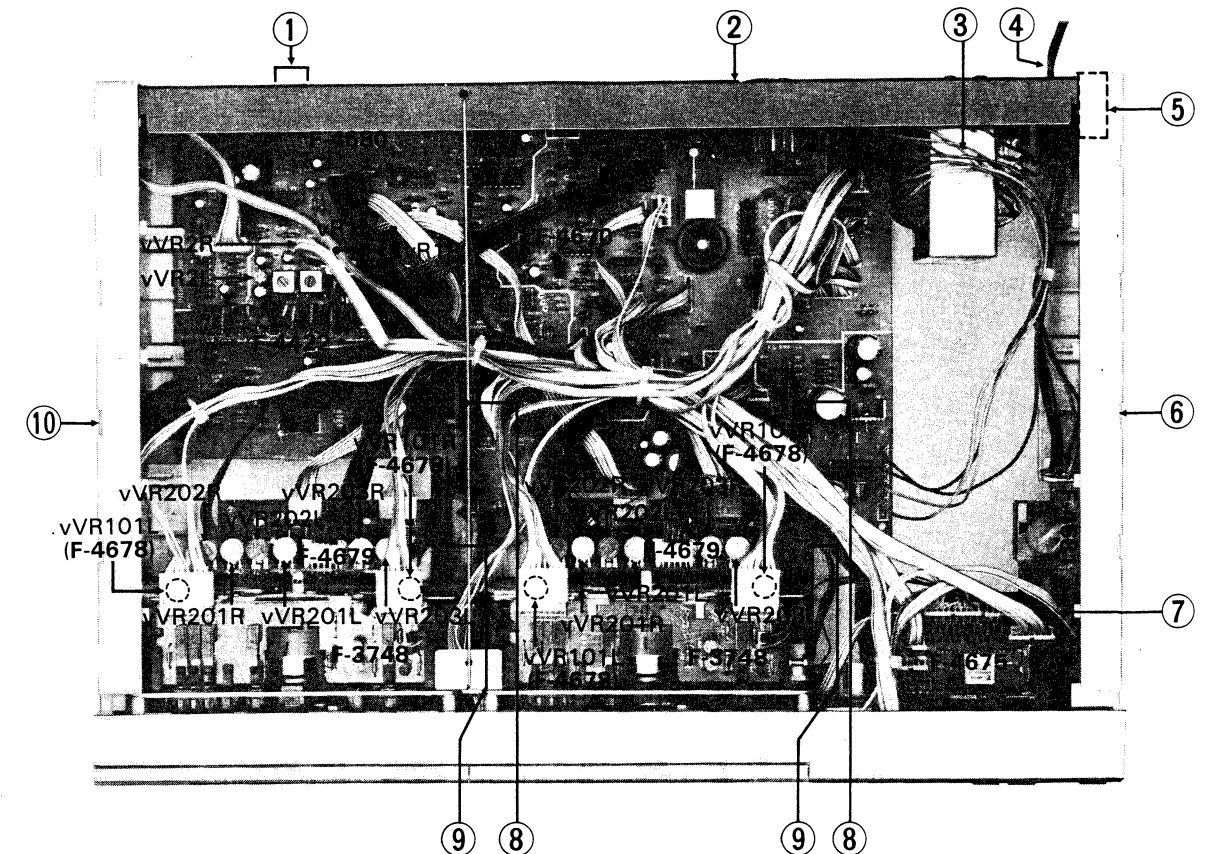
8-1. Front View



Parts List <Front View>

Parts No.	Stock No.	Description
1	47676800	a Lid Ass'y (Silver Model)
	47676900	a Lid Ass'y (Black Model)
2	47643600	Bonnet (Silver Model)
3	47677000	b Lid Ass'y (Silver Model)
	47677100	b Lid Ass'y (Black Model)
4	47678500	Front Panel Ass'y (Silver Model)
	47678600	Front Panel Ass'y (Black Model)
4-1	47715800	Knob, PROGRAM, SET, COMPU EDIT
4-2	47677900	Knob, SERIES
4-3	47678000	Knob, REC ONLY a b
4-4	47677200	Knob, a
4-5	47677400	Knob, DUBBING ▷
4-6	47677500	Knob, DUBBING 2×▷
4-7	47677300	Knob, b
4-8	47715900	Knob, AUTO FADER, INTRO SKIP, BLANK SEARCH, RCPS
4-9	47628700	Knob, EJECT (Silver Model)
	47628800	Knob, EJECT (Black Model)
4-10	47678700	Cassette Holder Ass'y
5	46549500	Push SW., Control
6	48080900	Push SW., DOLBY NR/REVERSE MODE/TIMER
7	47633100	Knob, OFF
8	47633200	Knob, B
9	47633300	Knob, C
10	47632800	Knob, ⏮
11	47632900	Knob, ⏭
12	47633000	Knob, ⏪
13	47633400	Knob, OFF-ON
14	47633500	Knob, PLAY-REC
15	47626700	Knob, POWER (Silver Model)
	47626800	Knob, POWER (Black Model)
△ 16	46413900	Push SW., POWER (XX, UL, EU, BS)
△	48065200	Push SW., POWER (CSA)
17	46706300	Jack, PHONES
18	48109200	Jack, MIC
19	47696700	Knob, MIC, REC LEVEL (Silver Model)
	47639300	Knob, MIC, REC, LEVEL (Black Model)
20	48080700	20kΩ (A) V.R., MIC
21	48080800	20kΩ (A) V.R., REC LEVEL
22	47626900	Knob, REC LEVEL
23	46556400	Push SW., REC LEVEL
24	46899300	Tape Counter
25	47673100	Counter Belt

8-2. Top View



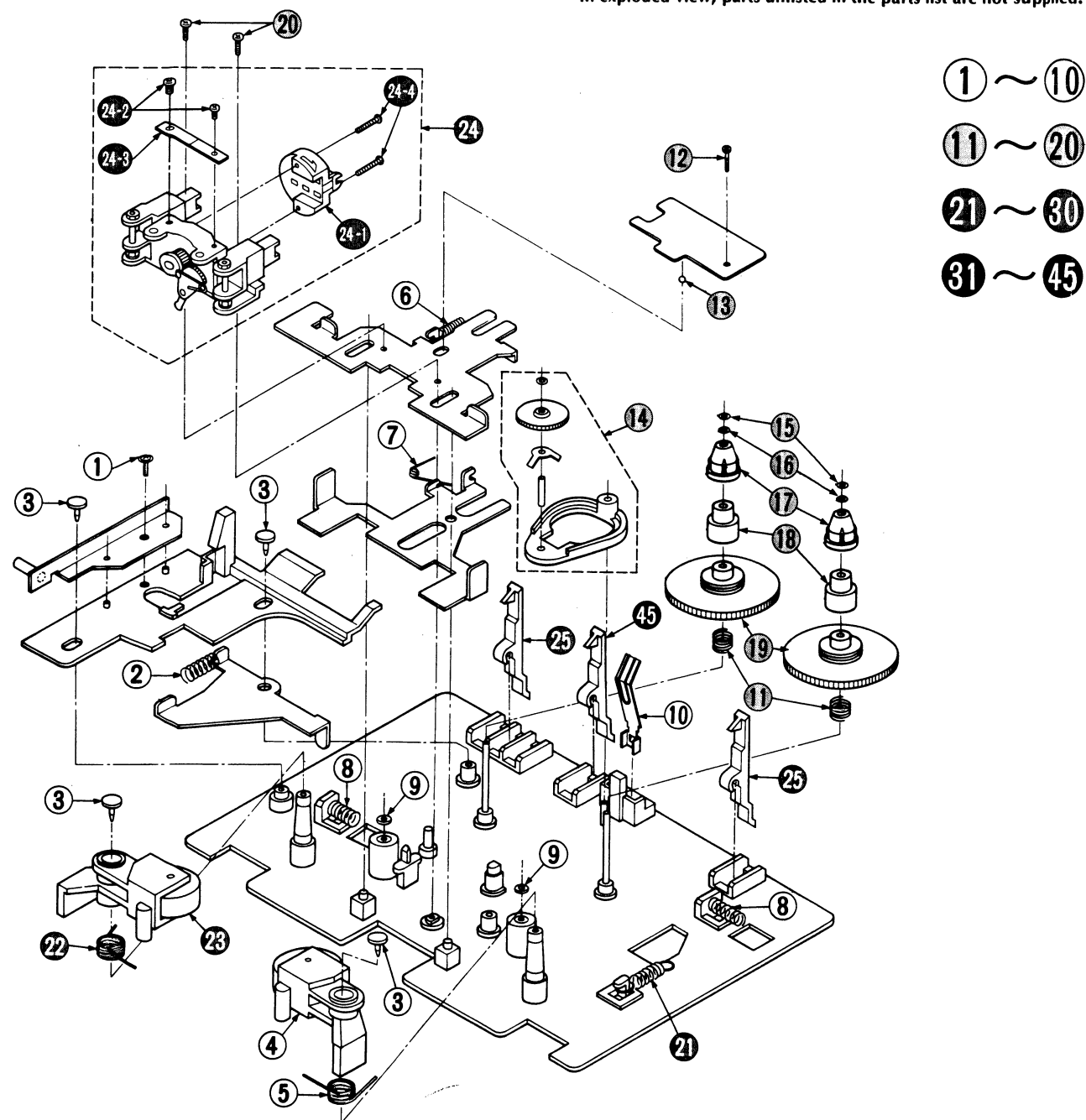
Parts List <Top View>

Parts No.	Stock No.	Description
1	46371500	4P Terminal Board, LINE IN/LINE OUT
△ 2	48069600	Voltage Selector (XX)
△	48111800	Voltage Selector (EU, BS)
△ 3	15017901	Power Transformer (XX)
△	15017902	Power Transformer (UL, CSA)
△	15017905	Power Transformer (EU, BS)
△ 4	38004700	Power Supply Cord (XX, UL, CSA)
△	38004500	Power Supply Cord (EU)
△	38004300	Power Supply Cord (BS)
5	47157300	AC Cord Cover
6	47679000	Right Side Panel Ass'y (Silver Model)
	47679100	Right Side Panel Ass'y (Black Model)
7	47113100	Joint Shaft
8	48126700	Damper Ass'y
9	47628500	Damper Joint Shaft
10	47678800	Left Side Panel Ass'y (Silver Model)
	47608900	Left Side Panel Ass'y (Black Model)

9. EXPLODED VIEW & PARTS LIST

9-1. Front View of Mechanism Ass'y

• Though every part included in mechanism ass'y is numbered in exploded view, parts unlisted in the parts list are not supplied.

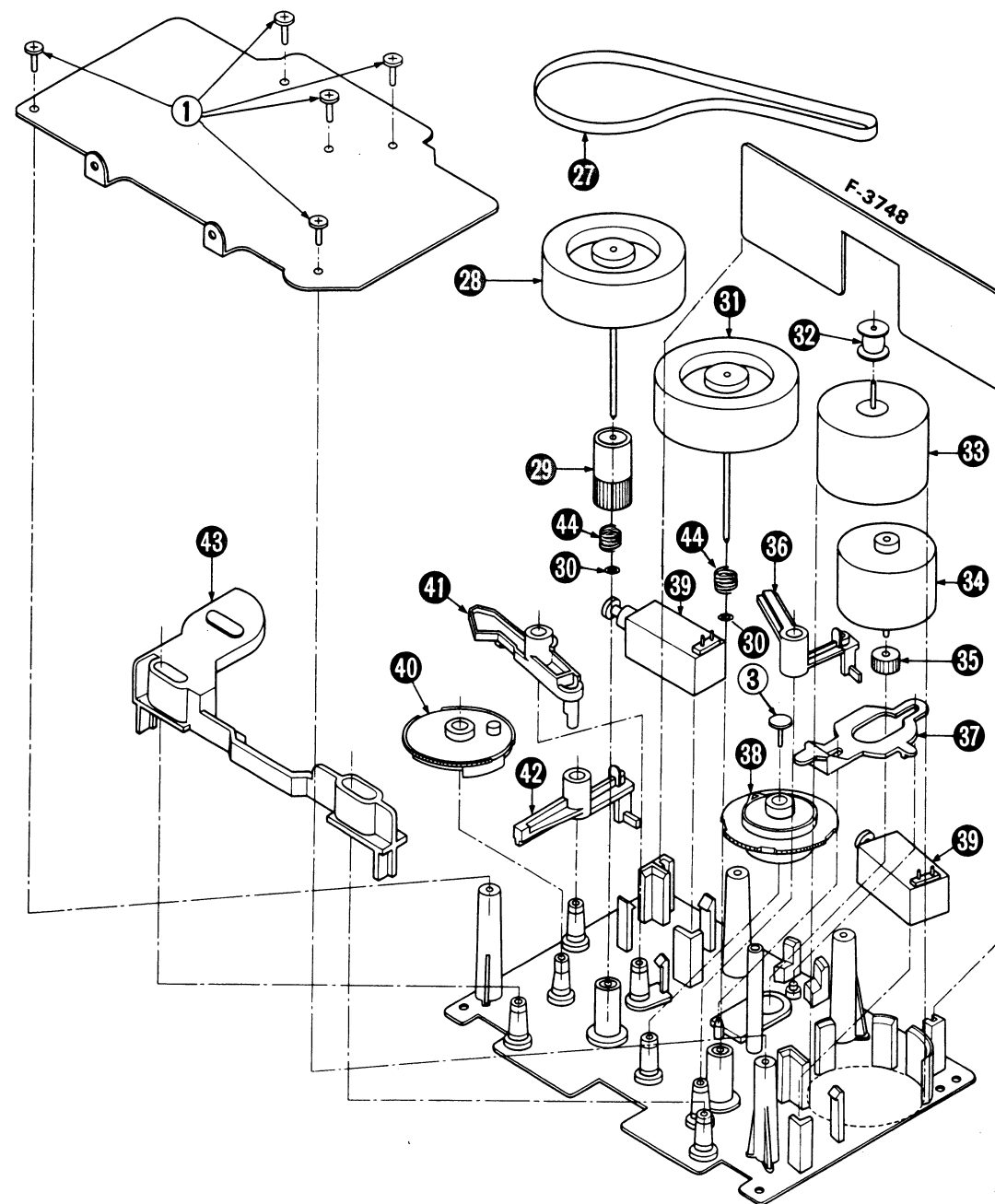


Parts List

Parts No.	Stock No.	Description
1	48005900	Tapping Screw, M3×8
2	47644500	Spring, eject
3	47420900	Plastic Tack
4	47281810	Pinch Roller (R) Ass'y
5	47483100	Spring, pinch roller (R) ass'y
6	47406200	Spring, head base
7	47405600	Spring, Slide base
8	47668600	Spring, plunger solenoide
9	47404700	Nylon Washer, d=2.5
10	47293510	Spring, half
11	47709610	Spring, reel
12	13127800	Binding Head Screw, M2×12
13	47404900	Steel Ball, φ=2.0

Parts No.	Stock No.	Description
14	47405000	Arm Ass'y
15	47404800	Washer, d=1.6
16	47497100	Washer, d=2.0
17	47281000	Sprocket
18	47281100	Damper, reel
19	47283300	Reel Gear
20	46398800	Screw, M2×6
21	47406300	Spring, push arm
22	47724100	Spring, pinch roller (L) ass'y
23	47281910	Pinch Roller (L) Ass'y
24	16610301	REC/PB & Erase Head Ass'y (with sensor)
24-1	46858000	REC/PB & Erase Head

9-2. Rear View of Mechanism Ass'y



•Shapes of standard mechanical parts

1. Pan Head Tapping Screw	PT Type
2. Washer Head Tapping Screw	WT Type
3. Pan Head Screw	P Type
4. Pan Head SEMS A Screw	PSA Type
5. Pan Head SEMS B Screw	PSB Type
6. Binding Head SEMS F Screw	BSF Type
7. Binding Head Screw	B Type
8. Flat Counter Sink Head Screw	F Type
9. Flat Counter Sink Wood Screw	FCT Type
10. Round Head Wood Screw	RH Type
11. Hex. Socket Setscrew	SC Type
12. Slot Type Setscrew	SS Type
13. Binding Head SEMS B Screw	BSB Type
14. Spring Washer	S Type
15. Plain Washer	P Type
16. Retaining Ring (E Washer)	E Type
17. Toothed Lock Washer (External)	TLE Washer
18. Wave Washer	
19. Hexagon Nut	H Type Nut

Parts No.	Stock No.	Description
24-2	47289100	Screw, M2.0×5
24-3	47289200	Spring Plate, azimuth
24-4	46731300	Screw, M1.4×6
25	47723000	Sensor Arm
27	47405200	Capstan Belt
28	47282900	Flywheel (R) Ass'y
29	47281210	Gear, flywheel ass'y
30	47404600	Washer, d=2.5
31	47283000	Flywheel (L) Ass'y
32	47283100	Pulley
33	48122800	Capstan Motor
34	46737500	Reel Motor
35	47293110	Gear, reel motor

Parts No.	Stock No.	Description
36	47281610	Lock Arm (A)
37	47293800	Arm (B)
38	47283810	Assist Gear (A)
39	47292600	Plunger Solenoide
40	47283910	Assist Gear (B)
41	47283710	Push Arm
42	47281710	Lock Arm (B)
43	47284200	FWD-REV Change Plate
44	47530000	Spring A, Flywheel
45	47292500	Sensor Arm B

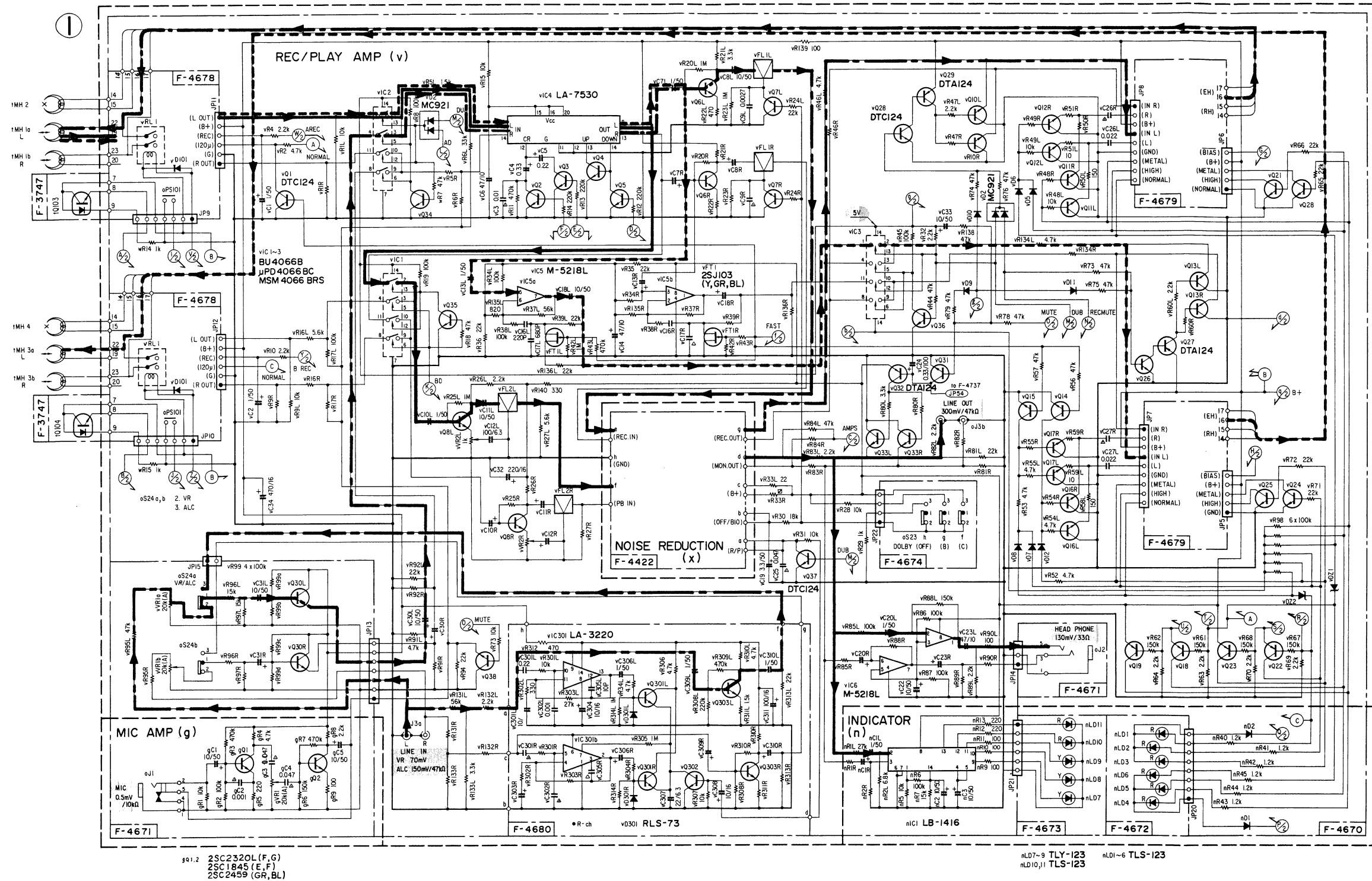
D-W10

D-W10

10. SCHEMATIC DIAGRAM

10-1. Amplifier Section

- * Design and specifications subject to change without notice for improvement.
- * La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



2SA934
2SA952
2SA1283
2SC1627A
2SC1845
2SC2001
2SC3243
2SC3244
2SC2320

2SA1115
2SC2459
2SC2603

2SA933S
2SA1175
2SC1740S
2SC2785
2SD1468S
DTA124
DTC124

2SJ103

μPD4066BC
μPD4069C
BA612
BU4066B
BU4069B
HA12058NT
HD14069
LA3220
LC7530
MB8841H-1357K
MB88421-161M
MSM4069BRS

Dot or Slot or Line

LB1416
TA78

M5218L L78N05

BA6208

MC921

DBB10-B

RB152

1S2473777 05Z3.0
05Z5.1
05Z6.2
05Z9.1

— a Mecha. PLAY Signal Line
- - - a Mecha. REC Signal Line
... DUBBING Signal Line

1

2

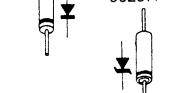
3

4

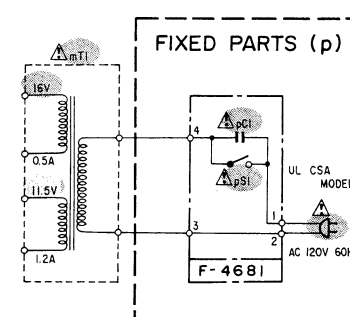
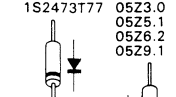
5

20

②



- Design and specifications subject to change without notice for improvement.
- La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



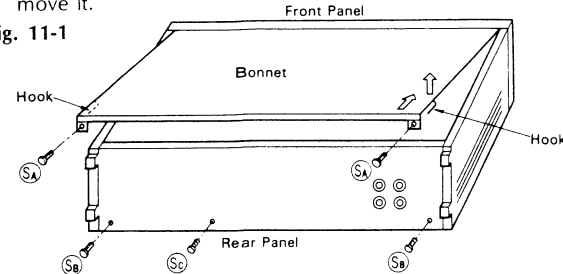
1S2473T77 05Z3.0
05Z5.1
05Z6.2
05Z9.1

11. MAIN PARTS REPLACEMENT (See Exploded View on page 19)

A. Bonnet (See Fig. 11-1)

- 1) Remove two screws (5A).
- 2) Push the rear side of the bonnet to undo the hooks and then remove it.

Fig. 11-1

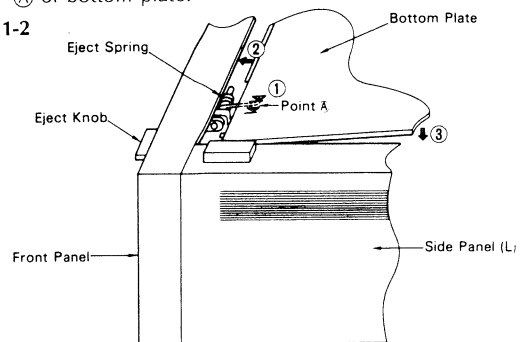


B. Bottom Plate (See Fig. 11-1 and Fig. 11-2)

- 1) Remove two screws (5B).
- 2) Push the rear side of the bottom plate to undo the hooks and then remove it.

Note: Install the bottom plate after matching eject spring with point A of bottom plate.

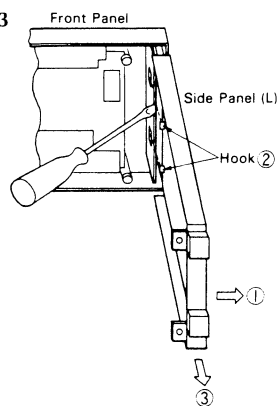
Fig. 11-2



C. Side Panel L (or R) (See Fig. 11-3).

- 1) Remove the bonnet and the bottom plate.
- 2) Shift the position of the side panel L (or R) 2.0 cm in to the arrow direction ①.
- 3) Undo the hooks ② of the side panel and then pull it to the arrow direction ③ to remove it.

Fig. 11-3



D. F-4678 and F-4679 Circuit Board

- 1) Remove the bonnet and the bottom plate.
- 2) Pluck out two connectors from F-4678 Circuit board.
- 3) Unhook two stopper lid of sockets on the F-4679 Circuit board and then pull out two parallel cables.
- 4) Remove the protection cover on the F-4678 circuit board.
- 5) Unsolder heads, LED and sensor read wires.
- 6) Loosen two screws fixing F-4678 circuit board and then undo two hooks near S.V.R. on the F-4679 circuit board.

E. Mechanism Ass'y

- 1) Take off the lid ass'y.
- 2) Remove the bonnet and the bottom plate.
- 3) Take off tension wire.
- 4) Pluck out two connectors from F-3748 board.
- 5) Unhook two stopper lid of sockets on the F-4679 circuit board and then pull out three parallel cables.
- 6) Extract two connectors from the F-4678 circuit board.
- 7) Remove the side panel L.
- 8) Loosen one screw (5) and then push up reinforcement to extract from support nails.
- 9) Take off counter belt.
- 10) Loosen four screws fixing the mechanism ass'y.
- 11) Draw out the mechanism ass'y.

F. REC/PB Head and Erase Head (24-1)

- 1) Remove the mechanism ass'y from Set.
- 2) Loosen two screws. (24-4)
- 3) Pull out the head toward the arm ass'y (19), softly.
- 4) Unsolder head wires at head terminal board.

Note: Care must be taken not to give tension.

G. Pinch Roller Ass'y (4)

- 1) Remove the mechanism ass'y from set.
- 2) Pluck out the plastic tack (3).
- 3) Take out the pinch roller ass'y.

H. Reel Gear (19)

- 1) Remove the mechanism ass'y from set.
- 2) Take off two washers (15) (16) to pull out reel gear.

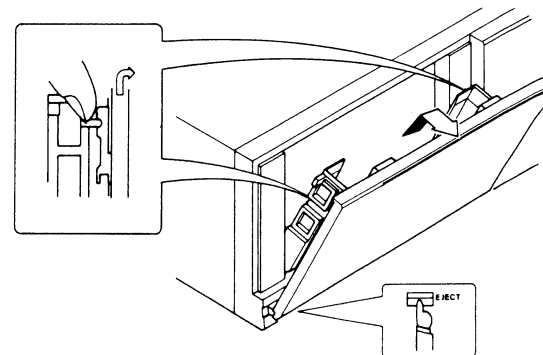
I. Capstan Motor (33), Reel Motor (34), Capstan Belt (27), Flywheel (28) (31) & Plunger Solenoid (39)

- 1) Remove the mechanism ass'y from set.
- 2) Remove the F-4678 and F-4679 circuit board.
- 3) Loosen five screws (1) fixing sub chassis.

J. Lid Ass'y

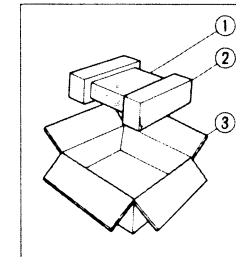
Press the EJECT knob to open the cassette holder, push the parts locked at the left and right in the figure while pulling it upward, and remove the Lid ass'y.

Fig. 11-4



12. PACKING LIST

Parts No.	Stock No.	Description
1	13729900	Vinyl Cover
2	47673600	Styrofoam Packing
3	47673200	Carton Case <Silver Model>
	47673300	Carton Case <Black Model>



13. ACCESSORY LIST

Stock No.	Description
07193400	PJP Cord x 2
or 38103300	PJP Cord x 2
94300500	Head Cleaner
46962000	Operating Instruction



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